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BULLETIN

OF THE

MEDICAL LIBRARY ASSOCIATION

ANNUAL MEETING OF THE
MEDICAL LIBRARY ASSOCIATION
CLEVELAND, MAY 27 to 29

VOL. 35 NO. 1

JANUARY
1947

FOR THE GUIDANCE OF AUTHORS SUBMITTING MANUSCRIPTS

The Editor and the Associate Editor have encountered some difficulty in bringing the various contributions submitted to the *Bulletin* to the same form and style of printing. In order to reduce the work of the editorial office, authors are requested to bear in mind the following:

1. Contributions of value to medical bibliography, to library science, to the history of books and libraries, to the life of libraries and librarians, and to the history of medicine will be accepted provided they are in correct form. No paper which has already appeared will be accepted nor will simultaneous publication elsewhere be permitted.

2. The Editor reserves the right to return to the author for revision approved manuscripts which are not in proper finished form, or if it can be done without involving extensive change in style, to give necessary finishing touches to manuscripts and illustrations.

3. Papers submitted should not exceed 25 typewritten pages. Manuscripts should be typed on one side of the paper and double-spaced, including footnotes and bibliographical references. The original should be sent for publication and the author should retain a carbon copy.

4. Long quotations in the main text should be avoided and they should appear as footnotes. Footnotes should be typewritten on the same page of the manuscript in which reference is made.

5. In the case of contributions dealing chiefly with bibliography, the citation list will be printed in the main text.

6. Each reference, either in the list of references or in the bibliography printed in the main text, should be quoted according to the style of the Index-Catalogue, or, if the month of publication is also given, according to the style of the Quarterly Cumulative Index Medicus.

7. All annotations to any reference in the list of literature quoted should be typed in separate paragraphs.

8. Journal titles should be abbreviated so as to save in the cost of printing. Abbreviations should be identical with those used by the Quarterly Cumulative Index Medicus.

9. Authors should indicate, in the manuscript, the approximate position of text figures. Illustrations should be marked with the author's name. Legends for figures should be typed on separate sheets and placed at the end of the text copy.

10. The amount of tabular or illustrative matter should be limited. Authors may be asked to pay the excess cost of such material if it is excessive and they may be charged with the cost of excessive proof corrections, if these are not printer's errors.

11. For examples of style in lists of references and bibliographies, prospective contributors should refer to articles printed in the current issue of the *Bulletin*.

12. The Editor cannot supply reprints free of charge.

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BULLETIN OF THE MEDICAL LIBRARY ASSOCIATION

VOL. 35, NO. 1
JANUARY, 1947

Editorial

AN ESSAY ON THE "PRECEPTS" OF MEDICAL LIBRARIANSHIP

IT WAS twenty-one years ago that Mr. Ballard voiced the opinion that medical librarians should be specially trained, and ever since that time the feeling has been growing that medical librarianship is a field of special endeavor and as such deserves a specialized training program.[1] This feeling reached a culmination in the reading of Miss Marshall's paper and a committee was appointed by the Medical Library Association to consider the problem.[2]

It is generally conceded among medical librarians that approximately a year is required for one to become oriented in medical library work, assuming that one enters the field of medical librarianship with a background of library school training and experience. Medical librarians are often asked why is this period of orientation necessary? In what respect is medical librarianship different? Why should a specialized training program be necessary to teach one the principles of medical library work?

Medical librarianship ascribes to the philosophy of librarianship in a democracy as admirably outlined by Miss Kolotsch.[3] The medical library is a social force, a very vital one. Medical librarians make their contribution to the philosophy of medical practice in a democracy. A medical librarian whether he is conscious of it or not is constantly faced with the social and medical implications of his work. The books and journals read by the student or the practitioner are bound to affect the medical practice in the community to which the practitioner eventually goes to practice medicine. Knowledge in any field outstrips the scholastic curriculum. Written records are the sources from which the student can learn the accumulated knowledge of medical science. It is the duty of the medical librarian to expedite in every way the bringing together of man and his works for the betterment of the health of man, and in this last statement we have the basic reason for the consideration of medical librarianship as a specialty. It deals with the health of man. With this concept of medical librarianship the "precepts" of medical librarianship

can be considered under the headings, (1) Content, (2) Method, and (3) Attainments.

Under the heading (1) Content, may be considered the fact that in dealing with man's most precious gift medical librarians are imbued with a high sense of responsibility of the importance of their work. It is often literally a question of life or death that spurs the frantic search for references in the literature to similar cases. Every assistance rendered a student moreover carries with it the implication that knowledge so gained may some day revert to the betterment of the health of some patient. It is only natural that a medical librarian, working in such an environment where the implications and the results of his work are so profoundly impressed upon him day after day, will soon develop an enthusiasm for his work that is probably not equaled in any other field of librarianship. His enthusiasm is admirably demonstrated in his professional organization, the Medical Library Association, the second oldest special group in this country, an extremely active organization.

The second consideration of medical librarianship is that of (2) Method. Method in this field embraces all procedures that assist in the dissemination of medical knowledge. Medical librarianship is essentially an art, but because of its close relationship to medical science its method in many instances approaches that of the empirical sciences. It is probably true that the medical librarian approaches a problem much in the same spirit as does the research worker in the laboratory, not knowing where a particular problem may lead.

Method as viewed from the standpoint of medical librarianship may be considered from two angles. First, (A) there are the principles of library economy which may be applied to the organization, administration and service rendered by medical libraries; secondly, (B) Method may be regarded from the functional point of view as one of the technical procedures in the medical sciences.

From the standpoint of library economy (A) medical libraries are in general organized and administered along individualized basic lines for the preservation and distribution of medical knowledge. Special classification systems have been developed for the arrangement of material, since the general classification systems have proven inadequate to care for the literature. Periodical material, of which there is a preponderance in medical libraries, is generally not classified, but is arranged by title, to facilitate use. The medical library's collection is further made up of special reference books, texts, monographs and ephemeral material. To disseminate medical knowledge contained in these graphic records the librarian must examine and attempt to evaluate the new developments in contemporary medicine. Medical science is progressing so rapidly that the current literature plays a very important

role in medical progress. The librarian's main interest is to see to it that use is made of this urrent material which in an all too short a time will be obsolete. To accomplish this end is one of the important duties of the librarian. For that reason the current material is usually organized as one unit to promote its use by making it more accessible to the library's patrons.

In the use of its material medical librarianship has a somewhat different concept than do librarianships in general fields. There is a great deal more freedom used in the actual handling of a library's collection. Journals are permitted to be checked out of the library, which certainly is not a common practice in other types of libraries. There is much less concern over the time element in the lending of material, due to the importance of the topic under investigation.

With the development of the art of librarianship, librarians have accepted another obligation, that of teaching. Medical librarianship has now grown to the point where some formal instruction in its use is almost essential if the library's resources are to be used to advantage. Accordingly, courses in "Medical Bibliography" are now being given in many of our schools.

These seem to be some of the features of organizational practices for the proper administration of medical libraries, which have commonly been accepted as standard library procedures.

Now consider Method from its second phase (B), that is, from the functional approach or as one of the technical procedures of the medical sciences concerned with the assembling of facts.[4] A medical librarian has a number of approaches to this problem considered from this viewpoint, and these may be grouped under the headings, (I) Bibliographical, (II) Historical and (III) Statistical.

Probably the greatest tool the librarian has at his command for assisting the investigator is the Bibliographical approach to a problem. This implies on the part of the medical librarian some language ability, knowledge of medical terminology, familiarity with subject headings as used in medicine, the various indexes, journals, reference books, yearbooks, and all the numerous bibliographical sources so essential to the work of medical librarianship. To do justice to his work a bibliographer needs far more bibliographic knowledge than is necessary for the recording of current writings. He must be able to index the writings in such a manner that the user may be able to judge the value of the work to him. That implies a knowledge of medical terminology, and at least a "speaking" or superficial knowledge of medicine.* In addition the

* Cf. suggested readings: Janet Doe, ed., "A Handbook of Medical Library Practices," Chicago, American Library Association, 1943. 609 p. (p. 36). Also N. H. Neese

librarian needs to become thoroughly grounded in the principles of bibliographical citation so admirably outlined by Dr. Fulton.[5] So important are these "principles" that his paper may well be considered one of the classics of medical librarianship.

Bibliographical citations are an integral part of the solving of any problem. If a citation is not properly given, the sequence of the logical development of one's thesis may be faulty. Therefore, a clear understanding of the principles of bibliographical citation should be understood by every librarian desiring to do justice to his work.

The second procedure in assembling facts is the Historical approach, which first came into vogue in the Lyceum of Aristotle. There the collecting of books became one of the original features of the Lyceum, and for the first time it became possible to apply the historical method in scientific investigations. The study of any problem begins first in the library and not in the laboratory. The historical approach aids the logical process, and in so far as it succeeds in establishing the stages in the evolution of classes of facts, a better understanding is obtained into the unity and continuity of phenomena. The application of this method by the librarian involves the tracing of the various stages in the development of any phenomena and the interpretation of the reasons for the changes noted. Of course, this method may also be applied successfully by the librarian in the solution of problems of library administration, and in furthering the usefulness of the library to its community.

The third procedure in assembling facts is through Statistics. Medical librarians need to know something of statistical methods in order to understand and interpret medical investigations which make use of these methods, as well as in solving many of their own problems of library administration by collecting facts which can be interpreted statistically. This method is employed by all the sciences. Generally speaking the fundamentals of statistical methods are the collecting of data, and the tabulation, analysis and interpretation of results. Science is not concerned with small isolated facts, but with the order and selection of facts which reveal new meanings and new values. A librarian to do justice to his work must have some appreciation of the procedures in the statistical analysis of facts.[6]

The third precept of medical librarianship to be considered is that of the (3) Attainments of the librarian. In many respects the medical librarian has a dual responsibility. He must be essentially a technician, and he must have a deep appreciation of scholarship or possess some scholarly attainments in the history of science if the library is to be a

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and F. H. Sweet, "An Introduction to Medical Science for Medical Record Librarians." Durham, Duke University Press, 1944. 223 p.

vital force in educational progress. If either one of these attributes is neglected or if one is over-emphasized at the expense of the other, the library will fail in its function as a cultural center. It is easy to subordinate one to the other, and this pitfall should be avoided.

We have only to look back into the not far distant past to realize properly the meaning of what a lack of appreciation of one of these attributes can mean to medical librarianship. Prior to the middle of the nineteenth century very little thought had been given to the techniques of library administration. As a rule the librarians were interested in scholarly pursuits that had little bearing on the bringing together of man and the printed page. By 1876 collections of books had grown so large and numerous that from necessity some planned organization was necessary in order for the collections to be used. In that year Melvil Dewey issued his classification system, and when in 1887 he established his school of library economy the foundation was laid for the development of library administration. The development of techniques has so developed that present day leaders in the profession are again emphasizing the need of scholarship among librarians.[7]

As a group medical librarians probably have been more conscious of their cultural heritage and its implications than is usual in other fields. A search through the files of the *Bulletin of the Medical Library Association* reveals many an article written by medical librarians dealing with the history of medicine, its cultural aspects and interpretations. Other journals too give evidence of the contributions of medical librarians to historiography. The annual meetings of the Medical Library Association usually have a portion of the program devoted to cultural medicine, and almost every library has a section devoted to old and rare books and to the history of medicine.

Investigations in the field of historiography can mean a great deal to the librarian because of the training in the historical approach to a problem. Knowledge of the scientific methods of the past gives one a deeper appreciation of the procedures of today. In the main, however, his historical interest will usually be concerned with more recent events in medical science in aiding his readers to find whatever they require as it has been recorded in print. Primarily the librarian's duty is the collecting, preserving and dissemination of medical knowledge to the greatest advantage and social welfare of his community. To do this intelligently he must apply his knowledge of the history of medicine, particularly in its more recent developments.

It is questionable, however, whether the medical librarian can devote the time and effort towards perfection of techniques in the finer aspects of historiography. This is not his obligation. His duty is to preserve culture. To merit the title of medical historian in a finer sense it would

be necessary to neglect the technical side of library administration, with the resultant detriment to the library's service.

In conclusion it may be said that many disciplines have gone into the making of a medical librarian. His reading must include a wide range of subjects. He must converse with the research worker, the clinician, the medical historian and the library technician. There is a little bit of the clinician, the research worker, the medical historian, the medical philosopher, the bibliophile, as well as the custodian and the librarian technician, in each successful medical librarian. He cannot be a success considered as an exponent of each of these disciplines, but they have all contributed to the creation of a new discipline—the art of medical librarianship.

W. D. POSTELL

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Some Statistical Methods Useful to the Medical Librarian*

By ESTELLE BRODMAN,† FRED J. PHEULPIN,‡ and J. DEUTSCHBERGER§

PART ONE
by
ESTELLE BRODMAN and JEROME DEUTSCHBERGER

Introduction
  Reasons why librarians should know about statistical methods
  What statistical methods are
Collection of data
  Primary and secondary sources of data
    Interviews, questionnaires, etc.
    Misleading data
    Incorrect conclusions
  Sampling and weighting
Measures of central tendency
  Average
  Median
  Mode
Variability
  Range
  Mean deviation
  Standard deviation
Frequency distribution
  Normal distribution
  Skewed curve
Correlation
  Scatter diagrams
  Product moment correlation
  Rank difference correlation
Standard and probable error
Conclusions
Bibliography

PART TWO
by
ESTELLE BRODMAN and FRED PHEULPIN

Introduction
Glossary of terms
How to make charts and diagrams
  Materials: graph paper, lettering, inks, etc.
  Methods of making charts, diagrams, graphs
Examples of graphical methods
  Chronology charts
  Curve charts
  Frequency charts
  Bar graphs
  Pie graphs (Sector charts)
  Organizational charts
  Pictorial charts
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PART ONE
STATISTICAL METHODS FOR LIBRARIANS

Preface

MOST librarians shy way from mathematics as from sin itself, in the mistaken belief that there is something exceedingly difficult and esoteric about it. Higher mathematics is undoubtedly

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complicated, but there are many mathematical facts and methods which require no more than high school algebra to understand; and luckily these simpler and more fundamental operations frequently give us our most important results.

This paper is an attempt to explain some of the frequently used, very simple statistical methods so that even the librarian who hates figures and almost failed in high school mathematics can understand and use them. No attempt will be made here to give the mathematical bases for any of the methods. In learning to drive a car it is easier to take on faith the reason why the engine "turns over" when the starter is pressed, rather than to spend the time learning the physical basis of sparks and exploding gases. In the same way, the librarian might better take on faith the reasons why the mathematical formulas given here work, and spend her time practising the methods. Those of little faith can turn to any textbook of statistical reasoning.

The reason medical librarians need to know something about statistics is twofold: they must be able to understand and interpret medical books and journal articles which make use of these methods, and they must know which problems of library administration can be solved by the collection of certain kinds of figures and their manipulation by statistical means. Luckily for the librarian, all she needs to have is a knowledge of how to collect data scientifically, a few simple methods of handling the data, and a knowledge of what conclusions can be drawn from the data collected. Just as a librarian interested in the building of a new library needs only to be able to explain to the architect what is wanted and to understand enough of the difficulties in order not to ask the architect to do the impossible; so a librarian working with statistics needs to know only enough to explain to the professional statistician what her problem is, not to expect the statistician to produce miracles, and have a small knowledge of what the statistician's figures show. If the librarian understands how to manipulate simple data and leaves the interpretation of large masses of figures by complicated methods to the professional she will be safe. And those who enjoy mathematical reasoning can always go on *ad infinitum*.

Introduction

Everything which exists exists in some quantity and can therefore be measured; but frequently its measurement *per se* is its least important attribute. What is usually more important than its absolute measurement is its relation to other things—its relative measurement. We have few absolute measurements in life; when we say that an object is ten feet long, we are unconsciously comparing the object with a standard foot-measure, and saying that what we have is ten times the standard. Besides,

we are usually not so interested in the fact that our object is ten feet long as that the next fellow's similar object is nine or eleven feet long, and that our object is larger or smaller than the other's.

The science which exists to compare facts is *statistics;* or, as it has sometimes been called, *sadistics.* Unfortunately the word statistics has two meanings: it can mean either masses of numerical facts or the interpretation of such facts. For this paper, *statistical methods* will be used to designate the presentation and interpretation of facts, and *statistics* will be used for the raw numerical figures which are to be interpreted.

Collection of Data

Data are the facts from which conclusions are drawn, and are comparable to evidence given in a court of law. Unless the evidence is valid, the conclusion is not likely to be just, for accurate conclusions can only be drawn from complete and precise data. There is, of course, the necessity for thinking logically to draw the correct conclusions from the data, but without correct data just conclusions are unlikely. Since it is of such fundamental importance in reaching exact results, particular attention must be paid to the collection and assembly of data.

Data can be obtained by various means, either from primary (original) sources or from secondary sources (other individuals or agencies). The choice of methods is greatly influenced by the purpose to which the answer will be put, and the time, and expense at our disposal. It would be ridiculous to use a method which requires immense expenditure to get an answer to a relatively unimportant question. For example, the *World Almanac* is sufficient as a source of population statistics for the casual question asked in a medical library; but the Census Bureau needs to go to the primary source, the people themselves, to compile its population statistics.

Primary sources. There is a children's game called "gossip," in which one child whispers a sentence to another, then the second whispers what she thinks she heard to a third, and so on down to the last child. Then the first and last child repeat their sentences. Any one who has played this game knows how garbled the facts get in the transmission. To find out what actually was said, it is necessary to go to the original child (the primary source), and this is true of all collections of data.

Interview method. The main advantage of the interview method lies in the fact that the information is acquired direct from the source. Frequently, also, material that might otherwise be unobtainable is secured. Furthermore, the interviewer has the opportunity of checking personally the information he receives, and asking further questions if the answers seem unclear. On the other hand, because of the time and expense involved, the interview method can only be used in a small

number of cases. This gives limited coverage of the field, and brings up the question of sampling. (See page 11.) Also the subjective factor is involved in recording by interview, for the interviewer interprets the answers given him and may not interpret them correctly.

In some cases, such as the taking of a census, the interview is the only practical method of gathering accurate statistics. In the case of a librarian interested in deciding which foreign language journals should be added to the library, she must find out (among other things) which languages are most widely read by the library users. It would be possible, and fairly simple, to interview each reader as he entered the library. Since only a small percentage of the library users come to the library in any one day, however, this would give only a small sample. Actually, in any instance requiring an intensive survey, the interview method, because of the limited coverage it gives, is generally inefficient.

Questionnaire method. (Called *questionnaires* in British works.) In using this method, attention should be paid to the construction of the questionnaire. Loosely, illogically constructed questionnaires generally result in incomplete, inaccurate and useless data. The questionnaire should be concise, with the questions easily understood; and, wherever possible, should be arranged in logical sequence. It should be as short as possible (preferably one page), in the most conveniently answerable form, with the answers consisting of *yes* or *no,* check or blank space, or a numerical indication. If it is also constructed to facilitate the tabulation of results, the facts can be seen almost as soon as the answers are received. It should be tried out in preliminary form wherever this is feasible, and items changed where weaknesses become apparent.

The advantages of the questionnaire lie in the fact that a large group of people can be reached easily and quickly in a relatively inexpensive manner. The disadvantages of the method, however, frequently outweigh the advantages. Often the questions require supplementary explanations. If enough people do not answer the questionnaire, the results may be unreliable due to the unconscious sampling. Follow-up letters and questionnaires are frequently necessary in those cases where the original form was not filled out, or was incorrectly filled out.

If the librarian of a hospital were to send a questionnaire to a limited group, such as the members of the department of pathology, in all likelihood the data collected would be accurate, for it would be possible to keep sending follow-up questionnaires to those who did not answer. If, however, the same librarian were to send questionnaires to the entire population of the hospital, it is unlikely that a sufficiently large number would respond to insure the accuracy of the results.

Secondary sources. Secondary sources are those already compiled by some one else. It is quick and handy to use secondary sources, for,

since the data are already collected, time and expense are saved. Sometimes, too, the compiler has had access to people or things not available to the user of the data. For example, the Medical Library *Handbook* lists the largest medical libraries throughout the world and states the total holdings. It certainly would not be easy for the American librarian to travel from library to library to get this information, or even to write letters to all the medical libraries in existence. In case histories in medical books and articles, it is not possible to see the patients under the same circumstances as the physician, the compiler of the case histories, saw them. In these instances, secondary sources must be employed.

There are, however, many disadvantages to this method. The data obtained by the original compiler cannot be verified; his statistical technique may not be obtainable, thus making a check of the accuracy of his results impossible; or he may not have taken a representative sample. For example, in the case of the largest medical libraries, was the method of counting the books, journals, pamphlets, and reprints the same in all the libraries? Or, as in the case reports mentioned above, the purpose of the study may have prejudiced the choice of the source material, and subjective compiling and interpretation may have influenced the results. It is not too difficult to dig up statistics to prove almost anything. Anybody with an axe to grind, by working backward from the results desired, can produce statistics to prove his point. It may be true that the statistics are incomplete; but unless there is some method of checking on them, they are hard to disprove. It would be well, therefore, for a librarian using secondary sources as a means of collecting data to check as thoroughly as is possible the original source, and the means by which the data were compiled.

Sampling and Weighting

We generally start out with a "hunch" about something, and then we collect the data to prove or disprove that "hunch." For instance, it seems to us that our reading room is more crowded than it ever was before. So we count the numbers of people who enter it every day for a period of time long enough to give us a fair picture, and compare these figures with the ones obtained during a similar previous period. Suppose we find that whereas formerly 250 people came to the main reading room daily, now 350 people come. Then we can say to our building committee, "Here are the facts which prove that we need more reading rooms." But we must be sure that the data are complete and that we have compared equal things—not the numbers of people coming during an examination period with the numbers coming during the summer vacation. We must be sure that we have counted a sufficient number of days; not just one or two, where chance factors

would show up. Perhaps it rained one day, and more people came to the library than usual, rather than go home for lunch. Perhaps a heavy snowstorm and an epidemic of colds kept readers at home. A two days' count would not show the ordinary picture in these cases, but a two months' count would cancel out these unusual chance factors.

In the case of the readers in the main reading room, we could count everybody. But it is obvious that sometimes we cannot do this, and then the problem of sampling arises. Suppose we wanted to know what people thought of circulating bound periodicals from the library, or of allowing smoking. We could ask the first 100 readers who entered the library. But this random sampling would not give us a fair picture, since not everyone who enters the library is equal, and the first 100 readers might by chance be all of one group (say students). In most institutions it is impractical to ask everyone. But to ask only those people who like to smoke, or only those people who object to smoking in any form, or only those people who have to clean the library after the smokers have gone would give us a very one-sided picture. Instead, we make a list of all the various groups affected, and ask proportionate numbers of each group. For example, suppose our institution (usually called the "universe" in books on statistical methods) consists of:

Library committee	8 people
Heads of departments	23 people
Students	250 people
Instructors, not heads of departments	174 people
Laboratory assistants	27 people
Clerical workers	146 people
Cleaners	3 people
Miscellaneous	25 people
Total	656 people

With this list in our hands, we could figure out exactly how many individuals in each group must be asked the question in order to get a representative sample of the whole. If 8/656ths of all the answers (or 1.22%) came from members of the Library Committee, and 23/656ths (3.6%) of the answers were from heads of departments, and 250/656ths (38.1%) of the answers were given by students, etc., we would get a correct picture of the entire group. Thus, if we decide on asking only 100 people, 1 member of the library committee would be asked his opinion (corresponding to 1.22%), and 4 heads of departments (3.6%) would be questioned; 38 students (38.1%) would vote, and so on down the line.

In a pure democracy, each person's vote would be worth as much as every other person's vote. But obviously, in our mundane world, the votes of some of the individuals listed in the table above would be worth

more than the votes of others. The clerical workers who do not use the library very often would be less affected by the change than the instructors who use it frequently. And so we make up a table of *weightings* to tell us how important each person is in relation to the others. The methods of weighting change with the institution and purpose in mind. Individuals can be weighted by salaries, frequency of use of the library, length of service with the institution, academic rank, education, age, or what you will. One group is taken as the base (here let us say the students) and is given a weighting of 1. Then the other groups are compared with this basic group. Suppose in the above example we decided that each member of the library committee was 20 times as important as a student, that a head of department was 8 times as important as the student, that an instructor was twice as important as a student, etc., we would get a table like this:

Group	I No. of individuals	II Units per individual	III Total units	IV Per cent of total
Library committee	8	20	160	15.5
Heads of departments	23	8	184	17.8
Students	250	1	250	24.1
Instructors	174	2	348	33.7
Laboratory assistants	27	1	27	2.6
Clerical workers	146	¼	37	3.6
Cleaners	3	5	15	1.4
Miscellaneous	25	½	13	1.3
Totals			1034	100.0

If we multiply the number of people in each category by the number of units weighting given that category, we get a total number of units for that category as shown in column III above. Then we do just as we did in the unweighted samples: we take 160/1034ths (or 15.5%) of the total votes cast from the library committee; 184/1034 (or 17.8%) of the total votes cast from heads of departments, and so on down the line. The percentages in each category of the above example are shown in the last column.

Now obviously, if we decided to poll 100 votes, 15.5% (the library committee's vote) would equal 16 votes. But there are only 8 members of the library committee. We must thus find a number of which 15.5% is 8. Obviously, then, we can only use 50 votes. Or, put another way, 8 is 1/2 of 16, so we must take 1/2 the number of votes required to get a total of 16—or 1/2 of 100 votes: 50 votes. (See table on p. 14.)

The problem of sampling is fundamental to statistical methods. By incorrect sampling it is possible to prove anything or nothing; but this will not give a true picture of the facts. Incorrect sampling leads to

Group	Per cent of total	Votes cast if 100 votes counted	Votes cast if 50 votes counted
Library committee	15.5	16	8
Heads of departments	17.8	18	9
Students	24.1	24	12
Instructors	33.7	34	17
Laboratory assistants	2.6	3	1
Clerical workers	3.6	4	2
Cleaners	1.4	1	1
Miscellaneous	1.3	1	1
Totals		101	51

lying conclusions—the old canard about statistics never lying, but statisticians being liars, is partly due to this error. For discussions of methods of taking representative samples, see any textbook on statistical methods—and see it before taking the sample or drawing conclusions from it. Remember the *Literary Digest* had to go into bankruptcy after it was shown that its sample straw votes for president of the United States were entirely unrepresentative of the universe it was questioning.

Measures of Central Tendency

When we count the numbers of readers in our main reading room, we get a series of numbers (statistics) something like this:

January	1345 readers
February	1215 readers
March	1544 readers
April	1406 readers
May	1462 readers
June	1592 readers
July	1063 readers
August	1002 readers
September	1234 readers
October	1378 readers
November	1494 readers
December	1417 readers
Total	16,152 readers

In that form they tell us little. What we are interested in finding out is what they signify—what they tend to show. Certain measures exist to give us the central tendencies of the figures. These measures are all measures of the averages; they show us only the important trends and disregard unusual facts about the figures. The most common of these measures are the arithmetic mean, the median, and the mode, and we will discuss each one separately.

Mean

The *arithmetic mean* is the simplest to calculate, and the one we are all familiar with under the name "average." It is found by adding up

the figures and dividing by the number of figures we have. In this case we divide all the readers (16,152) by the number of months counted (12) to get a mean of 1346. In other words, an average of 1346 readers entered the main reading room each month during that year. From this we could draw conclusions about the number of assistants needed to take care of our readers.

The mean, however, is only a rough approximation of the tendency shown by our figures, being greatly influenced by the extremes of the figures and by the number of cases. For example, if a library staff received the following salaries:

Chief librarian	$10,000
Assistant librarian	5,000
Library assistant I	1,500
Library assistant II	1,000
Library assistant III	1,000
Library assistant IV	1,000
Library assistant V	1,000
Library assistant VI	1,000
Library assistant VII	500
Library assistant VIII	500
Total	$22,500

the average (mean) salary would be $2250; but actually only two people on the staff would receive anything near that amount. This would not give us a picture of the characteristic salaries paid by the library at all. There is an old joke, also, about a medical student who reported that the average age of contracting one of the rare diseases was 46 years, because two people had come down with it; one at 2 years of age and the other at 90.

Median

The median, on the other hand, is the central point in the array of figures. Suppose we arrange the reading room figures given above in order from the largest to the smallest. (This is called an array.) We would get:

1594	1462	1378	1215
1544	1417	1345	1063
1494	1406	1234	1002

The median of any array is the number which will have as many figures above it as it has below it. In a series of 13 figures, the median is the seventh. In an array of 12 figures, the median must have six figures above it and six figures below it. If we count six figures from the top of our array above, we get 1406; if we count six numbers from the bottom we get 1378. Clearly the median must lie between the two. What we do is to average the two figures: 1406 plus 1378 is 2784;

this divided by two is 1392. This is the median. 1392, the median, has as many numbers between it and 1594 as it does between it and 1002: six in each case. Similarily, the median salary in our example is $1000—quite different from the average of the figures.

The greater usefulness of the median over the mean is that the former is not influenced so much as the latter by the extremes of the series. Because in ordinary series the median usually lies between the mean and the mode, it is a more accurate description of the central tendencies than either of the others.

Mode

The *mode* in statistical methods has much the same meaning as it does in dress. If more people are wearing broad brimmed hats than any other kind, then broad brimmed hats are the mode. Similarly, if any figure is found more often than any other figure in a series, it is the mode of that series. Thus in our array of readers throughout the year, there are four numbers in the 1400's while there are only two numbers in each of the other hundreds represented. 1400, then, is the mode (more properly the modal interval). If we want to find out which number of the 1400's is more characteristic than any other, we can calculate it by the use of the rather complicated formula for interpolation, which is given in any textbook on statistical methods. For most work, however, the modal interval, found by simple inspection, will suffice. (Need we say that $1000 is the mode of the salary array?)

The mode is useful because it is a simple and easily found measure of central tendency; because it is not influenced by extremes within the series of figures; and because it indicates the point of concentration of the figures. Unfortunately, it is not nearly so accurate as the median in giving us the trend of the figures.

Variability

Frequently we are interested not only in the central tendencies of an array of figures—the mean, the median and the mode—but also in how much the group of figures varies from this center. For instance, in our example of library salaries, we calculated that the mean of the salaries was $2250. We commented at the time that this amount gave us a very peculiar idea of the salaries paid by that library since only 2 salaries approached that mean and the rest varied greatly from it.

One thing we are interested in finding out about hypothetical library salaries quoted is the *range* of variability; that is, the distance between the lowest and highest salaries paid. This would give us some idea of the spread of the salaries. ($10,000, the highest salary, minus $500, the lowest salary, gives us $9500, the range.) Like the mean among central

tendencies, the range among measures of variability is the easiest to calculate and the least accurate. Like the mean, the range is greatly influenced by the extremes of the array. The range certainly does not tell us anything about the pattern of the distributed figures—whether the figures cluster about a central number, or are widely spread throughout the array. For these reasons, other measures of variability are necessary. Some of these will be discussed here.

Deviations from the Mean

Mean deviation. This tells us the average distance of the figures in our array from the mean. In other words, it tells us whether all the figures are close to the average, or are widely dispersed.[1] For example, let us take again the arrays of library salaries (p. 15) and library users (p. 15):

Library salaries (Mean = $2250)

Salaries	$10,000	5000	1500	1000	1000	1000	1000	1000	500	500
Variation from mean	7750	2750	—750	—1250	—1250	—1250	—1250	—1250	—1750	—1750

Library users (Mean = 1346)

No. of users	1594	1544	1494	1462	1417	1406	1378	1345	1234	1215	1063	1002
Variation from mean	248	198	148	116	71	60	32	—1	—112	—131	—283	—344

The mean of the first array is $2250, and the mean of the second array is 1346. Under each figure we have placed the amount it differs from the mean. Now if we add up all these deviations, disregarding their plus and minus signs, we get $21,000 for the library salaries array and 1742 for the library users array. Then we divide each of these totals by the number of figures in the array. Thus: $21,000 divided by 10 gives $2100, and 1742 divided by 12 gives us 145 1/6. These are the *mean deviations*. They show that in general the numbers in the array differ from the central point by $2100, in the case of the salaries, and 145 1/6 in the case of the library users.

Obviously when the range of an array is great—that is, when there are great differences between the lowest and highest numbers—the mean deviation will be large. On the other hand, when the range is small, the deviation from the mean will also be small. It follows that a small mean deviation indicates a small dispersal of the figures, while a large mean deviation points to a large dispersal or scatter of figures. Each of these cases is illustrated by one of the examples given above.

Standard deviation (S.D. or σ). Perhaps an even more accurate method of indicating how close the mean is to the values in the array (that is, how much they cluster or deviate from the average) is by the

[1] The formula used to calculate the mean deviation is:

$$M.D. = \frac{\Sigma|x|}{N}$$

where $\Sigma|x|$ is the sum of all the differences from the mean regardless of their algebraic sign
N is the number of values

calculation of the *standard deviation.* In a normal distribution (see p. 19) approximately two-thirds of all the figures (68.26%) in the array come between the mean and the figure for standard deviation. It follows that the closer the standard deviation is to the mean (i.e., the smaller the standard deviation) the larger the number of figures included between it and the mean, and therefore, the more typical will be the mean; while the larger the standard deviation the less typical will be the mean (i.e. the more spread there will be between the figures).

The standard deviation is obtained by squaring the differences between the mean and the numbers in the array, totaling the squares and taking the square root of that total divided by the number of cases.

$$\text{S.D.} = \sqrt{\frac{\Sigma x^2}{N}}$$

where Σx^2 is the square of the difference between the numbers and the mean.
N is the number of figures in the array.

Let us use our array of library salaries figures again:

Salary	Difference from mean (x)	Square of difference from mean (x^2)
$10,000	7750	60062500
5,000	2750	7562500
1,500	−750	562500
1,000	−1250	1562500
1,000	−1250	1562500
1,000	−1250	1562500
1,000	−1250	1562500
1,000	−1250	1562500
500	−1750	3062500
500	−1750	3062500
mean is $2,250		Total 82125000

$$\text{S.D.} = \sqrt{\frac{\Sigma x^2}{N}} = \sqrt{\frac{82125000}{10}} = 2865.7$$

The standard deviation, by squaring the differences, gives more weight to the extremes than would be obtained by merely adding the differences, as is done for the calculation of the mean deviation. For this reason, where there is a large range, the standard deviation will be a larger number than the mean deviation. Most statisticians believe that the standard deviation gives a very important description of an array, and consequently this calculation is met with frequently. For this reason, it is advisable that the librarian understand it and the methods for obtaining it. Actually it is much easier to calculate and understand than to describe.

Frequency Distribution

Under normal circumstances, when chance predominates, certain facts happen with a characteristic frequency, which can be plotted on a

graph to give a bell-shaped curve. (Fig. 1. Material on how to plot curves will be discussed in the second part of this paper.) For instance,

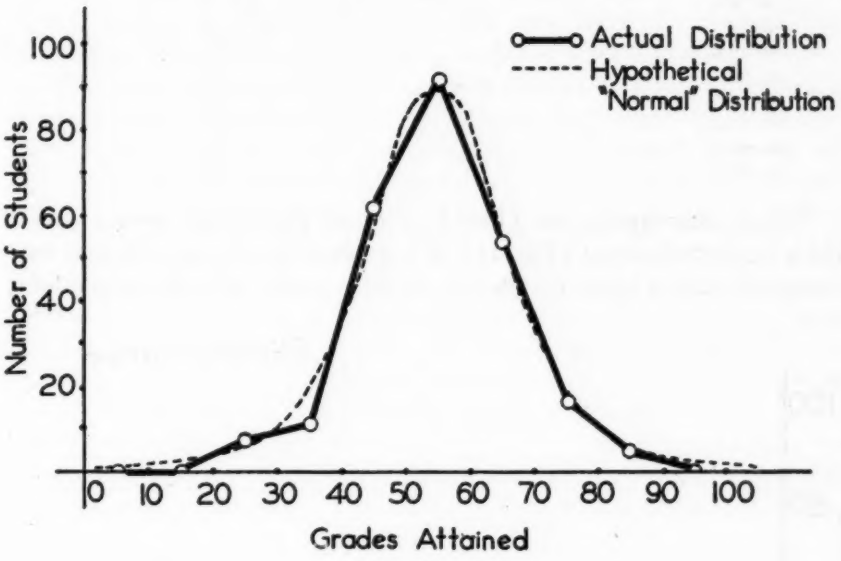

FIG. 1

if the librarian of a medical school gives a test to all the freshmen on their ability to use a library, she will find that some make very high marks and some make very poor marks, but the majority make marks within a certain range of percentages. Such a distribution is shown in the following series:

Marks	*No. of students receiving these scores*
0–10%	0
11–20%	0
21–30%	1
31–40%	15
41–50%	60
51–60%	92
61–70%	59
71–80%	16
81–90%	2
91–100%	0

When plotted on graph paper a characteristic normal frequency distribution curve is obtained (Fig. 1). Suppose the librarian then gives a course in the use of the library to the freshman class, and retests the students after the course is over. She will probably find that the scores have all been raised, and that in addition the majority of the marks are in the high range: 75%-100%. She might get the following results:

Marks	*No. of students receiving those marks*
0–9%	0
10–19%	0
20–29%	0
30–39%	9
40–49%	17
50–59%	25
60–69%	42
70–79%	50
80–89%	66
90–99%	36

When these figures are plotted on graph paper, they give a curve which is not bellshaped (Fig. 1a). It is pushed over to one side and has a long tail. Such a figure is called a "skewed" curve. It is not the random

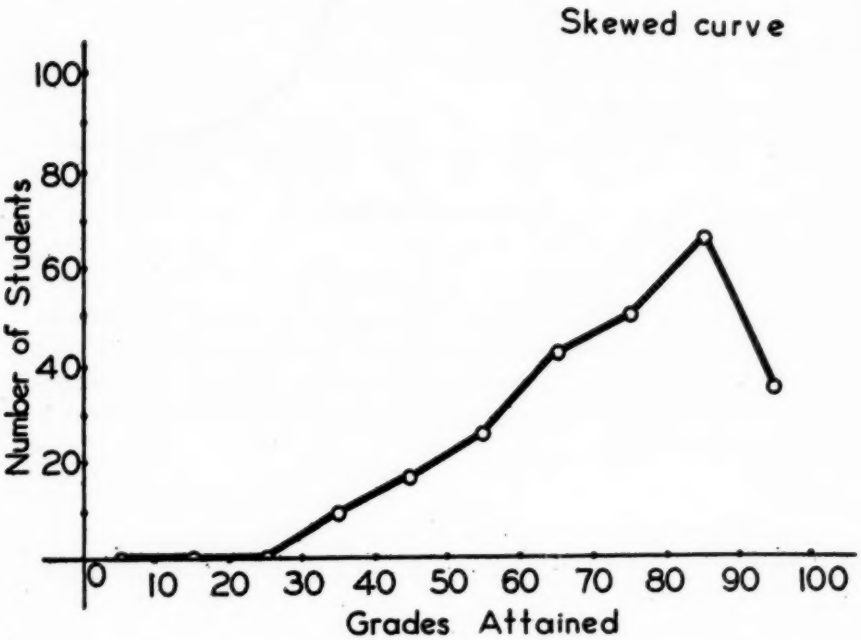

FIG. 1a

result which one would get by chance; but shows that some outside factor has been at work—in this case the course given by the librarian.

Correlation

Correlation is the relationship between one thing or one set of things and another thing or set of things. We are always attempting to find what effect one thing has upon another; in fact, we are so likely to look for such relationships in things which do not have any relation that we

caution ourselves against thinking, "Post hoc ergo propter hoc." Because one thing follows another, it does not necessarily depend upon the other; and two things occurring simultaneously may be due to coincidence. Koch's famous postulates, for example, were attempts to figure out methods of correlation for bacteria and the diseases caused by them.

While the concept of correlation is simple, methods of determining it are unfortunately quite complicated. There are several ways to indicate correlation; by the use of graphs and charts (the scatter diagram, see Fig. 2 and 2a), or by numbers derived from the use of formulas, notably the Pearson product-moment formula and the Spearman rank-difference formula. The resulting answer is called the coefficient of correlation, or simply the correlation, and is expressed in numbers from +1.00 through 0 to —1.00. A correlation of +1.00 means that each time one thing happens, the other thing happens too. For instance, each time you add more feet of shelving to the library stacks, you get more room to shelve books. A correlation of —1.00 shows that each time one thing happens, something negative happens. For example, each time you increase the size and therefore the number of books you can put on a library truck, you decrease the number of trips the stack attendant must make to shelve a given number of volumes. A zero correlation means that there is no relationship between the two factors being measured. For instance, there is a zero correlation between the number of trained librarians on the staff and the knowledge possessed by the entering freshmen on how to use a medical library; because the students' knowledge is due only to previous education or experience.

Correlation can be shown graphically by means of a scatter diagram (Figs. 2 and 2a). This does not show the exact amount of the correlation, but gives a quick, handy estimate of the relationship. Suppose one were attempting to find out if the number of books shelved in a library was dependent upon the number of hours worked by each stack attendant. The two items would be listed as follows:

Stack attendant	*No. of hrs. (x) worked*	*No. of bks. (y) shelved*
A	8	406
B	6	323
C	3	148
D	12	658
E	8	421
F	5	245
G	3	100
H	9	407
I	14	791
J	6	309
K	7	319
L	4	210
M	5	220
N	6	314

O	5	258
P	2	60
Q	8	392
R	11	574
S	12	637
T	14	785

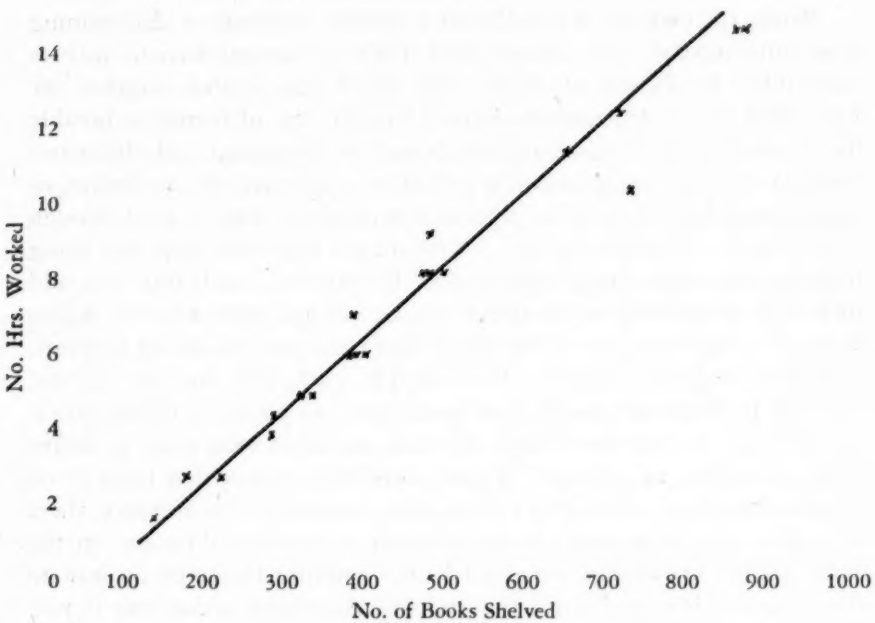

FIG. 2. Scatter diagram, high correlation.

When plotted on graph paper, the items scatter as shown in Figure 2. A correlation of ± 1.00 would result in a diagram which would fall along a straight line drawn through all points. It can readily be seen that Figure 2 is close to the ideal—i.e., there are almost as many items on one side of the line as on the other, and no item is very far from the line. Figure 2a on the other hand, shows a scatter diagram indicating no or very low correlation.

Scatter diagrams are convenient, if not too exact; but the more common method of arriving at a correlation is by use of the Pearson product-moment formula. This is:

$$r = \frac{\Sigma xy}{N x\sigma y\sigma}$$

$$\text{or} = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

where Σxy is the sum of the product xy
x is the difference from the mean of all the x's
y is the difference from the mean of all y's
σ is the standard deviation
N is the number of cases

The arithmetic necessary to work out the answer to this problem by use of the Pearson product-moment formula is given on page 23.

The answer is a correlation coefficient of .796[1] meaning that there is a high degree of positive correlation between the number of hours a stack attendant works and the number of books he shelves. Put in another way, one can conclude that the longer an attendant works, the more books he can shelve. Just such a method was used by the Industrial Fatigue Board of the (British) Medical Research Council during the

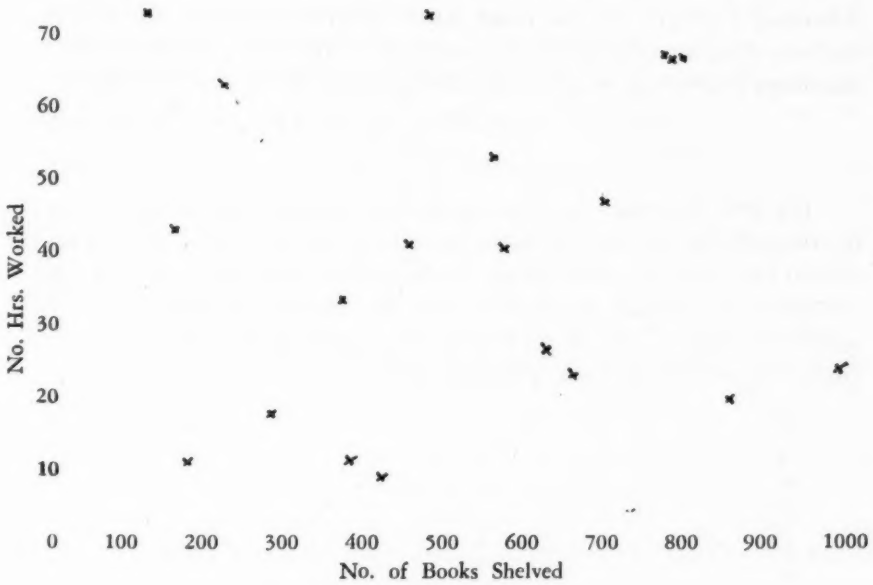

FIG. 2a. Scatter diagram, low correlation.

Battle of Britain to ascertain that, beyond a certain maximum number of hours of work per week, there is only a small correlation between the length of a working week and the output in repetitive work.

[1]	I	II	X_I	X_{II}	$(X_I)^2$	$(X_{II})^2$	$(X_I)(X_{II})$
A	8	406	1.6	77.3	2.56	5975.3	123.68
B	6	323	.4	5.7	1.60	32.5	2.28
C	3	148	3.4	180.7	11.56	32652.5	614.38
D	12	658	5.6	329.3	31.36	108438.5	1845.88
E	8	421	1.6	92.3	2.56	8519.3	147.68
F	5	245	1.4	83.7	1.96	6715.7	117.18
G	3	100	3.4	22.7	11.56	52293.7	77.18
Total	45.0	2301.0			63.16	214627.5	2928.16
	7	7			7	7	
Mean	6.4	328.7			$\sqrt{9.02}=$ 3.003	$\sqrt{30661.1}=$ 175.1	2928.2

$$\text{rho} = \frac{\Sigma xy}{N(x\sigma y\sigma)} = \frac{2928.2}{7(3.00)(175.1)} = \frac{2928.2}{3677.1} = .796$$

Rank-Difference Method of Correlation

The other frequently-used method of obtaining correlation is by use of the Spearman rank-difference formula, luckily a fairly simple method. The difference between the two methods of calculating correlation is a difference due to the things being correlated. The Pearson product-moment formula compares absolute numbers—the numbers of books shelved and the numbers of books charged out. The Spearman rank-difference formula, on the other hand, compares relative things—the ranks or standings attained in one way (shelving books) and the ranks or standings attained in another way (charging out books.) The formula is:

$$r = 1 - \frac{6\Sigma D^2}{N(N^2 - 1)}$$

where ΣD^2 is the sum of the difference between the ranks

N is the number of paired ranks in the series

The first formula (the Pearson product-moment formula) was used to compare the number of books attendants A, B, C, etc. shelved in a certain time. On the other hand, the Spearman rank-difference formula, compares the amount A shelves with the amount B shelves with the amount C shelves, etc. in relation to each other. If the attendants A-G shelve the following books per hour each:

Boys	*No. of books shelved per hour*
A	51
B	55
C	49
D	54
E	53
F	48
G	33

It is obvious that Boy B ranks highest (1) in shelving books, and that Boy D is next (Rank 2), and that Boy E is 3d, etc. Arranged in order of rank, the boys are listed thus:

Boys	*Ranks in shelving books*
B	1
D	2
E	3
A	4
C	5
F	6
G	7

Now if we go through the same procedure for the number of books the same boys can *charge out* per hour, we might get the following table:

Boys	*No. books charged per hour*	*Ranks of boys in charging books*
A	24	1
B	21	2
C	19	3
D	18	4
E	17	5
F	15	6
G	14	7

Uniting the two tables, we can note the difference between the two ranks:

Boys	*Ranks in shelving books*	*Ranks in Charging books*	*Difference in ranks*	*Square of difference*
A	4	1	3	(9)
B	1	2	1	(1)
C	5	3	2	(4)
D	2	4	2	(4)
E	3	5	2	(4)
F	6	6	0	(0)
G	7	7	0	(0)

The square of each of the differences is shown in parentheses. The total of these squares is 22. Substituting in the formula given on the preceding page, we get $1 - \frac{6(22),}{7(49\text{-}1)}$ or a correlation of $+.608$; which is a fairly high, positive correlation, and means that boys who rank high in the speed of shelving books are generally likely to rank high in the speed of charging out books.

The Pearson rank-difference formula is very useful for obtaining a measure of the correlation of not more than 15 or 20 paired scores. Beyond that number the method becomes cumbersome. In general, it may be said that a correlation of $-.50$ to $+.50$ shows a small degree or no degree of correlation; that a correlation coefficient of $\pm.50$ to $\pm.75$ shows a fair degree of correlation; while a correlation of $\pm.75$ to ±1.00 shows a great deal of correlation. Social studies tend to result in correlations of $\pm.75$ or less, while the physical sciences tend to give greater degrees of correlation than this.[2]

In this discussion of correlation, we have purposely omitted any mention of the relationship between multiple variables. If more than two things seem to be dependent upon each other, the librarian is advised to consult a professional statistician.

Standard and Probable Error

Our final discussions in this paper will be on standard and probable errors. If we measure anything several times, we are bound to find slight variations in each measurement. If we measure the distance between New York and Chicago many times and find several inches discrepancy in our results, it is of no importance. But a discrepancy of several inches in measuring the size of a book is indeed a serious matter. Methods have been worked out to determine whether the variations obtained are important, the most common of these methods being the *standard error*

[2] Two examples of the library use of this method are: Bull. Med. Lib. Assn. 32:479-483, Oct., 1944. (Brodman, E. Choosing physiology journals) and Bull. Med. Lib. Assn. 34:107-111, April, 1946. (Postell, Wm. Dosite. Further comments on the mathematical analysis of evaluating scientific journals.)

and the *probable error*. Let us use our correlation figures as an example. In order to find out if our discrepancies are important, we compare the correlation coefficient with the standard error, for, by general agreement, the coefficient of correlation must be at least three times the standard error before we can conclude that our answer has any validity. If it is not, the results we obtained may be due entirely to chance. To test our results in this way, we use the formula:

$$\text{(Standard Error) S.E.} = \frac{1\text{-}r^2}{\sqrt{N}}$$

where r is the coefficient of correlation
N is the number of cases

In our example of stack attendants shelving books and charging out books, we obtained a correlation coefficient of .608. Substituting in the formula given above, we have:

$$\text{S.E.} = \frac{1\text{-}.608^2}{\sqrt{7}} = .239$$

3 times .239 is .717

Now .608 is *not* .717, the necessary three times the standard error, .239. This means that we have used too small a number of cases; in order to have any reliability in our answers, we must start out with more than 7 cases.

The probable error, on the other hand, is a certain fraction (.6745) of the standard error. This amount gives us the possible variations of our measurements. In this case, the probable error of .608 is (.6745 $\times$ .239) or .161. This means that if we measure the correlation over and over again we are likely to come out with a result varying not more than $\pm$.161 from our present results. It might be .161 more than our present result, or it might be .161 less than our present result; in other words, the answer might vary from .769 (.608 plus .161) to .447 (.608 minus .161). The reported correlation coefficient usually takes cognizance of this fact, and lists the answer as .608 $\pm$ .161.

Conclusions

After the raw statistics have been correctly gathered, and the appropriate statistical methods applied to them, it is possible to draw conclusions. But if the conclusions are couched in such technical language as to be not understandable to the people who are to use the results, the entire purpose has been defeated. For that reason, the second part of this paper will deal with the methods of reporting facts, including such aids as charts, graphs, histograms, curves, and the newer pictorial statistics. For those who wish to go into the subject of statistical methods with any degree of thoroughness, or to learn the mathematical basis of the formulas given here, the books listed in the bibliography to this

paper should be consulted. It really is possible to use these statistical methods without any further preparation in mathematics than high school algebra; nor is it necessary to take a formal "course" in the subject before using them (as the present writer can testify). Two things are fundamental: 1) an ability to take the mathematical formulas on faith, and 2) a knowledge of how to substitute in an equation.

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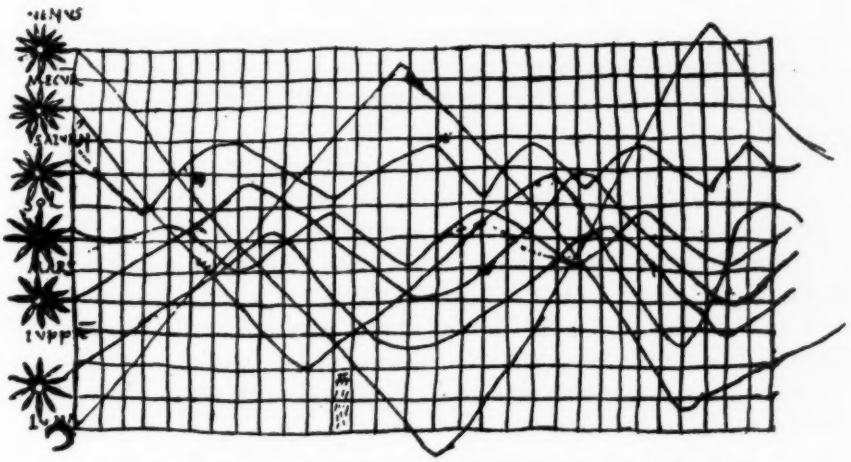


FIG. 1. A 10th century graph, probably the oldest graph known. Shows orbits of the planets.

PART TWO

GRAPHIC PRESENTATION OF FACTS

As we mentioned in the first part of this paper, it is not enough to gather facts accurately, manipulate the data correctly, and come to logical conclusions. Even after these things are done, the final step has yet to be taken; namely, the presentation of the facts in such a way that they are readily understood by the people to whom they are addressed. This is the purpose of the graphic presentation of facts.

Without going into the underlying psychological cause of the phenomenon, we will probably all agree that a picture is more readily grasped than a verbal description of the same fact. This is probably because a picture is a symbol of the fact (a picture of five books is a symbol of five real books); while numerical figures are symbols of pictures, and therefore twice removed from reality. The picture presents more of the *Ding an sich,* the essence of the fact, than does the numerical fact. Thus, a librarian who says in her annual report that five times as many readers used the library in 1945 as used it in 1940, can give much more emphasis to her point by showing a graph of the library attendance, or actual photographs of the crowded conditions in the reading room in 1945 and the empty conditions in 1940.

Whatever the reason, a pictorial representation of the conclusions obtained from data is more striking than either the numerical data alone or the description of the conclusions drawn from the data. All librarians are propagandists to a certain extent and therefore pictorial representation is helpful to them; besides they will meet conclusions couched in pictorial language in much of their work, and should have a clear understanding of what these mean, how they can be used, and how they are misleading.

It is not the purpose of this paper to present a discourse on the intricacies of graphic statistics or to describe the innumerable types and methods of graphic representation. The field of graphic representation is complex, with a wide application in most occupations. Fortunately, the librarian does not need to know more than a few fundamental facts and the methods of application of these facts in order to turn out a skilled product in which she can take justifiable pride. As in the first part of this paper, the attempt throughout this section has been to give information for the librarian *from the librarian's point of view.* The article has several aims: to show the usefulness of graphic representation for the librarian, to indicate the methods of employing such representation, and to make the librarian willing to use this form more frequently than is now done. For individuals who would like to go beyond this,

the books listed in the bibliography appended to this section will be helpful.

History

"Lineal arithmetic," as William Playfair called graphic presentation, is one of the earliest characteristics of human activity. As soon as man began to do things, he began to collect data, even if it were nothing more elaborate than that he had gone on a hunting expedition and had been successful. We know through the testimony of archaeologists that man first permanently illustrated his data by drawings on the walls of the cave in which he lived. This use of pictures as symbols in writing was taken over by the Egyptians, the Mayan Indians and the Babylonians, among others, and developed into hieroglyphics, cuneiform letters, and the like. Modern Chinese is still a pictograph language. In our own hemisphere, the American Indian used knotted strings, and other pictorial symbols and sketches to convey his ideas.

With the development of the natural sciences, graphic representation found an ever-increasing importance as a means of clarifying and presenting data at a glance. It was this ability to show the salient features in a set of numerical data which appealed particularly to the Age of Enlightenment. As William Playfair wrote in his *Commercial and Political Atlas of 1786,* "as much information may be obtained in five minutes as would require whole days to imprint on the memory . . . by a table of figures."

The importance of the graphic presentation of facts has been admitted by most professions and groups of people. During our own Revolutionary War, for instance, General Arnold was advancing upon the British General St. Leger. St. Leger's army was larger in numbers and stronger in arms than the American, and so Arnold had to resort to a ruse to persuade St. Leger to withdraw without fighting. Arnold called a captured Tory to his side, and promised him his freedom, if in return the Tory would give exaggerated reports of the strength of the American army to the British. This the Tory promised to do. Later, when General St. Leger asked the Tory about the size of the American forces, the latter answered, "General, I cannot really tell. All I know is that they are as numerous as the leaves of yonder oak tree." Fearful that his army would be encircled by the American forces, St. Leger immediately withdrew.

Graphs

Graphs are the most common method of pictorial representation, and the discussion of their forms thus becomes the core of this paper. In the following pages an attempt will be made to demonstrate how graphs are made, and how they can be used in library work.

A graph is a representation, by means of charts and diagrams, of the relations inherent in a group of figures. (For a picture of a graph, see Figure 2). Graphs are not used nearly so much in library work as they could be; probably this is due to the unfounded belief of librarians that a talent for drawing is needed to make a graph, and a great store of mathematical knowledge necessary to understand it when drawn. We should like to reiterate here that one need not be an artist to draw graphs, nor a mathematician to understand them. Actually a graph is a

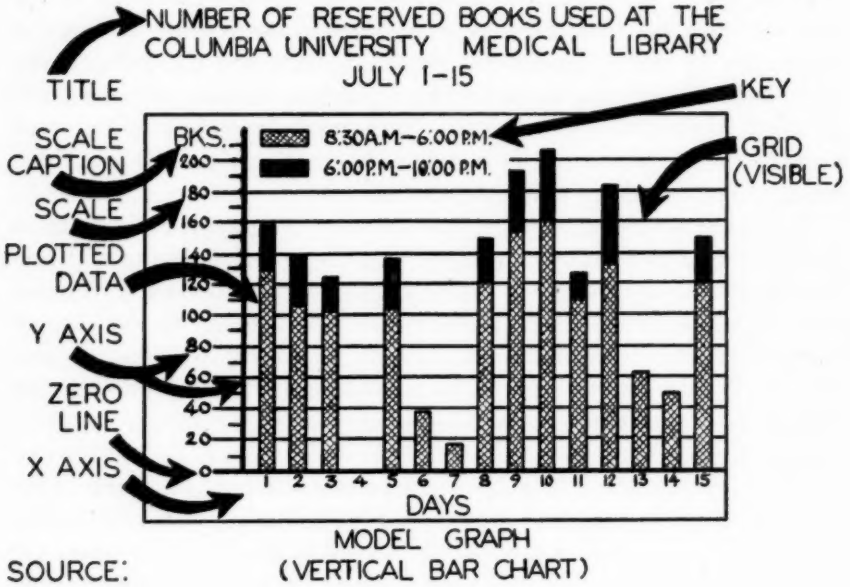


FIG. 2

ACCOMPANYING DATA
NUMBER OF RESERVED BOOKS USED AT THE COLUMBIA UNIVERSITY MEDICAL LIBRARY
July 1-15, 1946

Day	A.M.	P.M.
1	128	31
2	104	36
3	101	23
4	CLOSED	
5	102	36
6	38	
7	18	
8	120	29
9	152	41
10	160	37
11	109	28
12	131	52
13	62	
14	50	
15	119	30

simplification of numerical facts, in that the essential data are presented without the confusion caused by the presence of incidental data.

Although there is a great variety of kinds of graphs, the librarian is likely to meet only a few—possibly four or five varieties in all. These, in the order of their frequency of use, are:

1. The bar chart
2. The line graph
3. The area and solid diagram, including the so-called "pie-chart"
4. The organization chart, and
5. The map graph

Graphs will first be discussed in general, and then the individual graphs will be taken up separately.

All graphs have some similar parts. Of particular interest are: *graph*

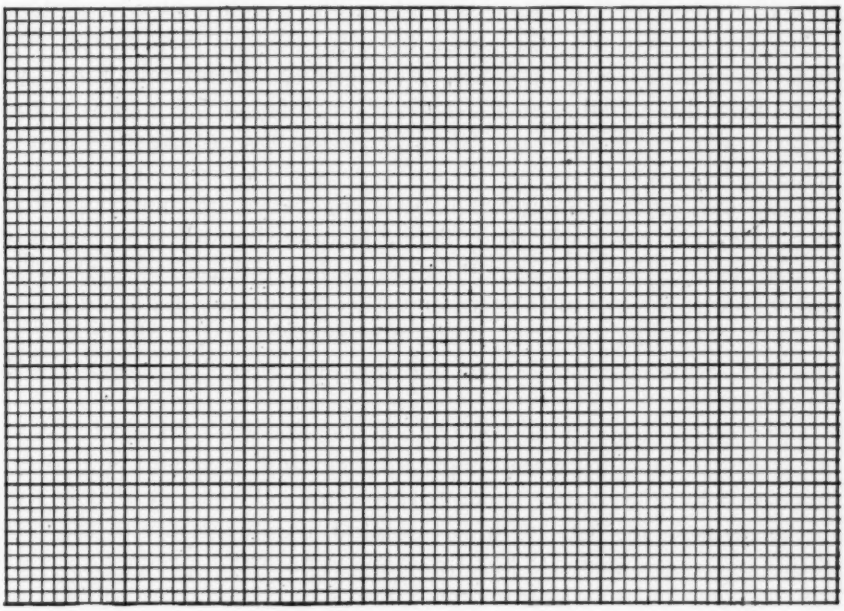


FIG. 3. Sample of graph paper.

paper (including the *grid*), the *scale,* the *scale captions,* the *title,* the *accompanying data,* the *legend,* and the *source.*

Graph paper is paper ruled with lines running both vertically and horizontally, thus forming squares or rectangles. (See Figure 3.) Graph paper is printed in various scales, and the use to which the graph is to be put as well as the data to be plotted determines the choice of the paper. All graphs must be plotted on graph paper, but in the final drawing or reproduction, the vertical and horizontal lines (the co-ordinates) may

be omitted. This omission is common, for instance, in posters for public display.[1]

The *grid* is the term applied to the horizontal and vertical lines ruled on the graph paper. Some graph paper is printed with a border of clear paper around the grid; other graph papers are printed with the grid continuing to the edge of the paper in all dimensions. As noted above, the grid is frequently omitted in final representation. This is done because the presence of many lines on the drawing tends to make the discerning of the essential data rather difficult, particularly in line graphs.

The *scale* is the dimension, or rate of the value, of each individual line on the graph paper. It is usually placed along the horizontal and vertical edges of the grid (the axes), so that the reader can evaluate the data shown in the graph. (See *scale captions,* below.) The total number of items to be shown and the size of the grid determine the scale of the graph. For instance, in a series of school marks the highest value possible is 100%, the lowest 0%. To show all these marks, 100 divisions of the grid are necessary. If our grid has twenty rulings we can give each ruling a value of 5% and still include all the grades on the paper. If our grid has only ten rulings, however, each ruling must have a value of 10%.

The *scale captions* indicate what is being shown and must be placed on both axes of the graph. They should be brief, but not so concise that immediate identification of all factors is impossible. The caption is usually put at the end of the zero line; thus, in this case, the word *scores* is the scale caption and it would be placed at the end of the line, and only the figures 5, 10, 15, etc. actually placed on the rulings. (See Figure 5.)

The *title* of a graph, like that of any scientific work, should be brief, but complete enough for thorough understanding. It should be remembered that the purpose of a graph is to eliminate intricate details and explanations of the data; with this in mind, the importance of the title cannot be over-estimated. The title should express the specific factors of the diagram, and should give the "what, where and when" of the information shown, and in the order indicated, unless strong reasons exist for changing it. It usually appears at the top of the chart, but its place is often determined by the use to which the graph is put and the style rules of the publication in which it will appear. In some publications, the titles of all graphs appear below the graph, together with the figure numbers, and are set in some particular size and font of type. In cases

[1] Throughout this section we have been discussing natural scales, which represent actual magnitudes. There are also logarithmic scales to designate ratios or percentages, and these are drawn on specially prepared logarithmic graph paper. For information about the latter, consult any of the books listed in the bibliography at the end of this paper.

where the title appears above the chart, the letters are usually larger than the rest of the type on the page, since this is actually part of the illustration.

The *accompanying data* is the table of statistics from which the graph was drawn. The purpose of the graph, as we have said before, is to present a picture of the data, rather than to express the original statistics; nevertheless, we are bound to give the reader all the data from which we made the chart, so that he can check our conclusions, if he wishes to do so.

The *legend* is the explanation of the scale, and must be included whenever two or more variables are indicated on the diagram. For example, in our graph of school marks, we may have tabulated the marks of the men students separately from those of the women students, and indicated the former by shaded boxes and the latter by unshaded boxes. The legend would indicate the difference in meaning between the shaded and unshaded boxes. The legend (or *key*, as it is sometimes called) should be located in the grid, but in such a position that it does not interfere with the curves, bars, pictures, etc. If there is not enough room on the grid proper, the key should be immediately below it, but never against the borders of the chart.

The *source* tells from where the data was obtained, and usually appears at the lower left-hand corner of the chart. It should be in the usual bibliographic form. It is a desirable policy to include the source of a graph wherever possible, for not only does this give authority to the conclusions, but it also enables the reader to locate further information, if he desires to do so.

Drawing Graphs

Materials necessary for drawing graphs. The materials necessary for drawing graphs are few and inexpensive. As a matter of fact, the library supply closet will probably furnish most of the items needed. The most important supplies are the following: A good *ruler*. Any one will do, but for extremely accurate results a triangular ruler is to be preferred. This is graded in six different scales of values, usually ¼″, ⅛″, 1/16″, 1/32″ and cms. and mms. If possible, the ruler should have a metal edge, so that ink will not smudge when used with the ruler.

A good *lettering pen*. There are many on the market. The authors of this section prefer the so-called "speed-ball pen" for hand lettering and the Wrico lettering guides (sold by Eugene Dietzgen and Co.) for stencil lettering. (See Figure 4.) They should be purchased in various sizes so various sized letters can be made. Anyone doing a great amount of lettering, sign-making, etc., will soon develop his own preferences along these lines.

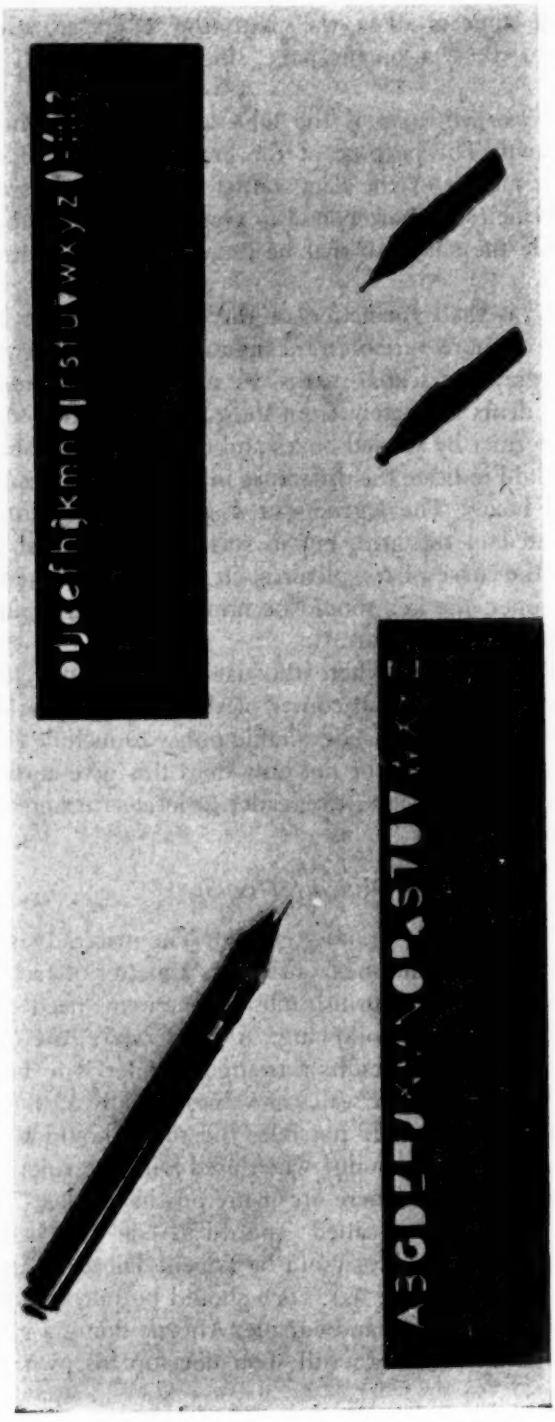


Fig. 4. Aids to lettering charts.

Ink. For ordinary work, black India ink should be used. This will give the chart permanence and a professionally finished look. If the diagram is to be reproduced, India ink is absolutely essential in order that the reproduction be clear and distinct. Permanent colored inks are also made by the same company which makes India ink, and the use of these can result in effective posters, charts, and the like.

A *compass* is necessary for the construction of pie charts, but any good compass (left over from high school geometry) will do.

A *protractor* for measuring angles is necessary for making pie charts. These instruments can be purchased at most drawing supply stores for very little. They make the plotting of pie charts very simple.

For graphs and charts to be used as wall signs, heavy *drawing paper* or *Bristol board* is used. These should be purchased glazed, so that ink can be used without danger of smudging.

A *drawing board* and *T-square* are pleasant adjuncts to have, but are certainly not necessary. With a drawing board, one can anchor the paper on which one is working by means of small thumb tacks; and a T-square will assure parallel lines at right angles to the edge of the paper. But, as mentioned above, these are luxuries and not necessities.

How to Draw Line and Bar Graphs

As mentioned in the definition of graphs, a graph is a pictorial representation of the relationships between two sets of numerical data. We start, then, with two groups of data; for example, the scores made in an examination on how to use a medical library and the numbers of students who made those scores.

Scores	*Nos. of Students*
0–10%	1
11–20%	3
21–30%	3
31–40%	2
41–50%	4
51–60%	6
67–70%	18
71–80%	33
81–90%	34
91–100%	21

To make a graph of these figures, we decide how many divisions of the grid are necessary. Obviously, we need to show ten groups, corresponding to 0-10%, 11-20%, 21-30%, etc. We therefore divide the grid along one dimension into ten subdivisions, thus: (Illus. I, Figure 5). In the same way, we need to show thirty-four divisions of the grid in the other dimension, corresponding to the largest number of subdivisions of our second group of data. This is shown in the second illustration in Figure 5.

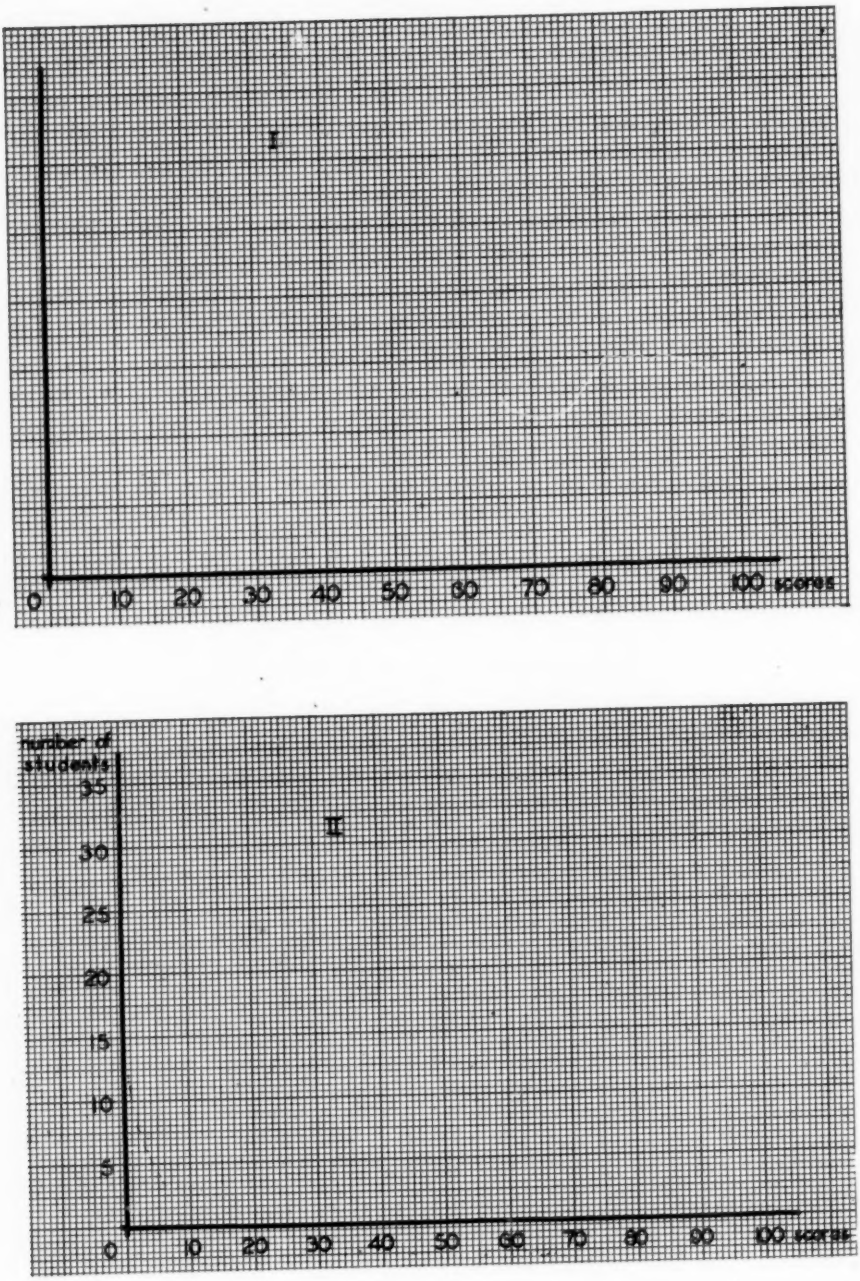


FIG. 5. Method of drawing a graph.

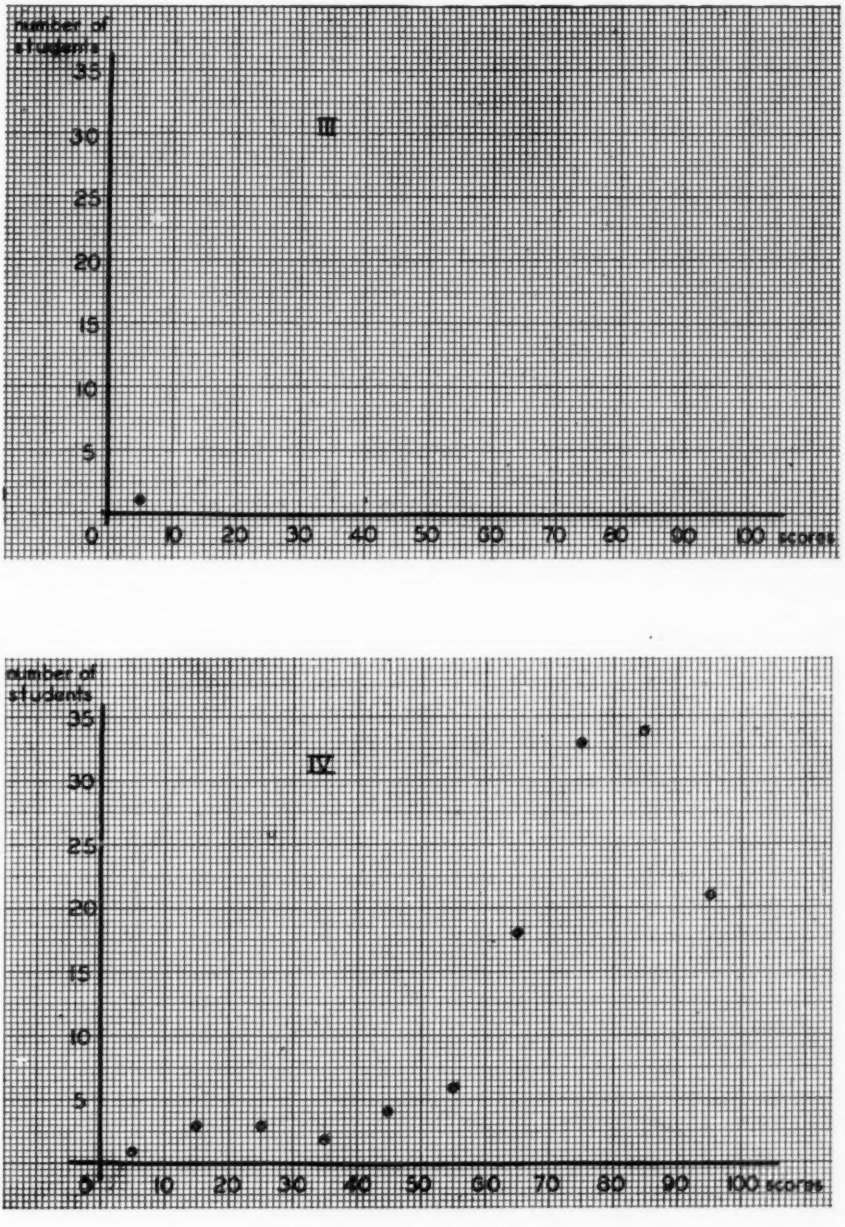


FIG. 5. Method of drawing a graph.

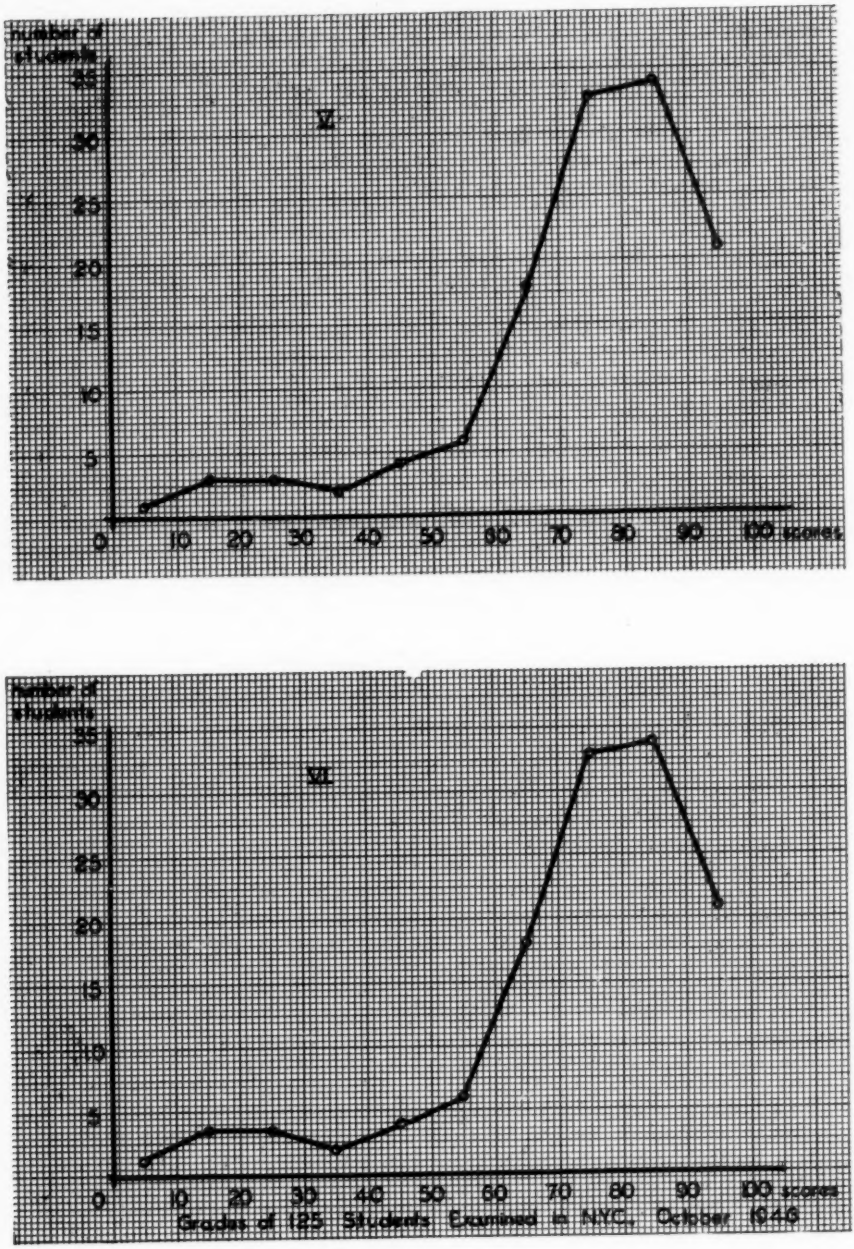
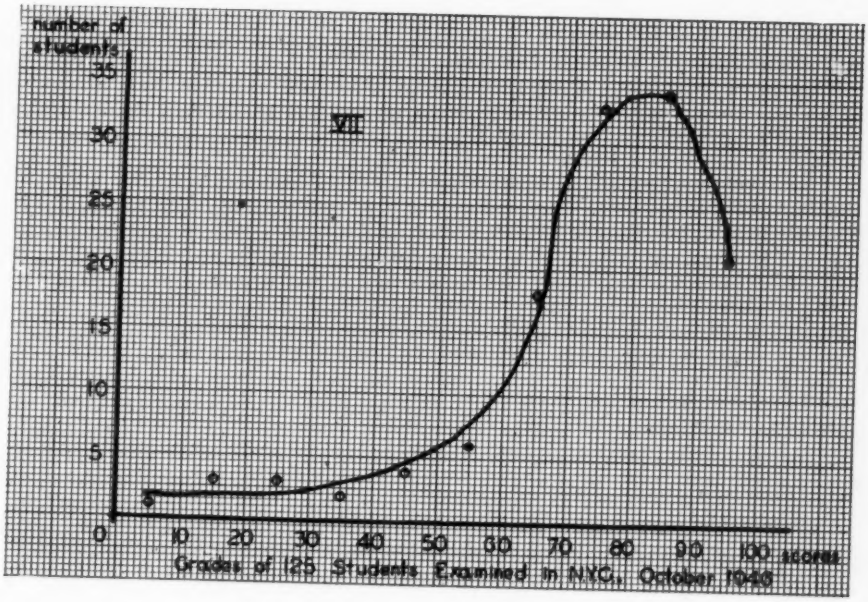


FIG. 5. Method of drawing a graph.



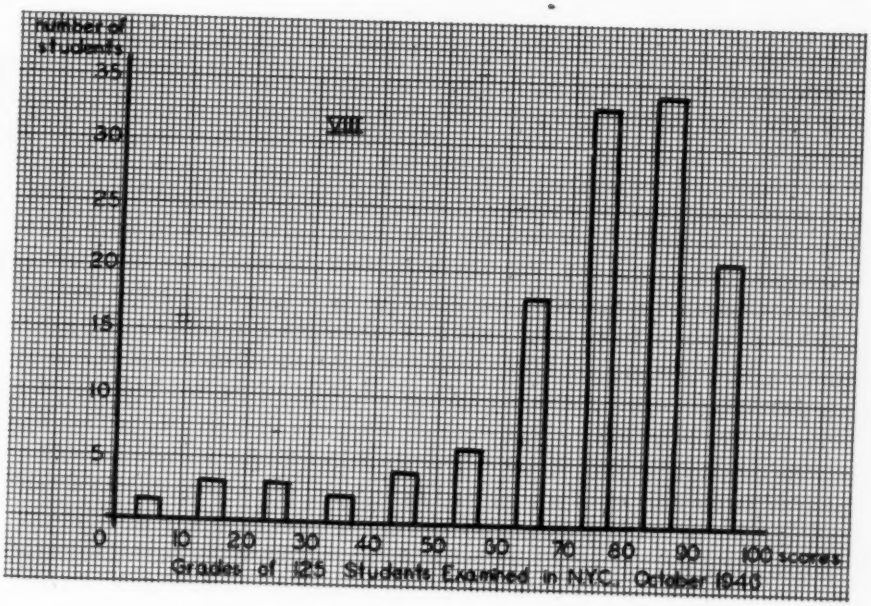


FIG. 5. Method of drawing a graph.

Now we plot the graph. We are told by our series of statistics that only one student received between 0% and 10%. To show this, we count *one* on the axis marked "Nos. of students." On the axis marked "Percent" we count *ten,* the score made. Where these two lines meet, we place an x. (See Illustration III in Figure 5.) We do the same thing for the other figures given. (Illustration IV.) Now we have two choices before us. If we are making a line graph, we join the x's by straight lines (Illustration V). If we are making a bar graph, we draw heavy (bar) lines from the zero line to the x's. (See illustration VIII.) To finish the graph, whether line or bar type, we add the title, the source of our statistics, and the accompanying table of data. (See Illustration VI, VII & VIII.) If the graph is to be published or shown to a group of people, we would India ink those lines which we wanted to show in the reproduction, and erase the x's and all guide lines before submitting the material to the printer.

Sometimes it is desired to show a trend, rather than the actual amounts of change. In that case, after the x's have been joined by the straight lines, a smooth curve is drawn, including as many of the points as possible, but mainly showing the general tendency of the data. (Illus. VII, Figure 5.) When smooth curves are used, it is customary to leave the x's on the chart, so the reader can check the original with the curve. Such "smoothed curves" are found very frequently in reports on physical phenomena, where the actual cases only begin to approach the general law about the phenomenon.

Histograms

A *histogram,* or *step diagram,* or *silhouette chart,* is nothing more than a bar diagram in which the bars have been widened until they coalesce. (See Figure 6.) The advantages of the histogram over either the bar diagram or the curve graph are its greater dramatic value and its ability to show a trend at a glance. It gives the impression of a continuum, of one thing gradually fading into another; instead of the feeling that we are in the presence of discrete quantities, as shown by the ordinary bar diagram.

As described earlier, if we connect by a line all the x's which we had plotted from our data, we get a line graph. If, however, instead of connecting the x's together, we draw a bar line from the zero line to each x, we get a bar graph. If in addition we widen the bars until they meet, and show only their highest points we have drawn a histogram. (See Figure 6.)

Area and Solid Diagrams

It would be wise if area and solid diagrams were not used by the librarian—or by anyone else—for they are the most misleading of all of the methods discussed here. They are, however, sometimes used in

material which the librarian must see and even valuate; for that reason they are described in this paper.

It is possible to describe any quantity by a certain area, and then double the quantity to show double the area. Indeed, all bar charts work on somewhat the same principle, for a quantity twice as large as another is shown by a bar twice as large as the original, and therefore with an

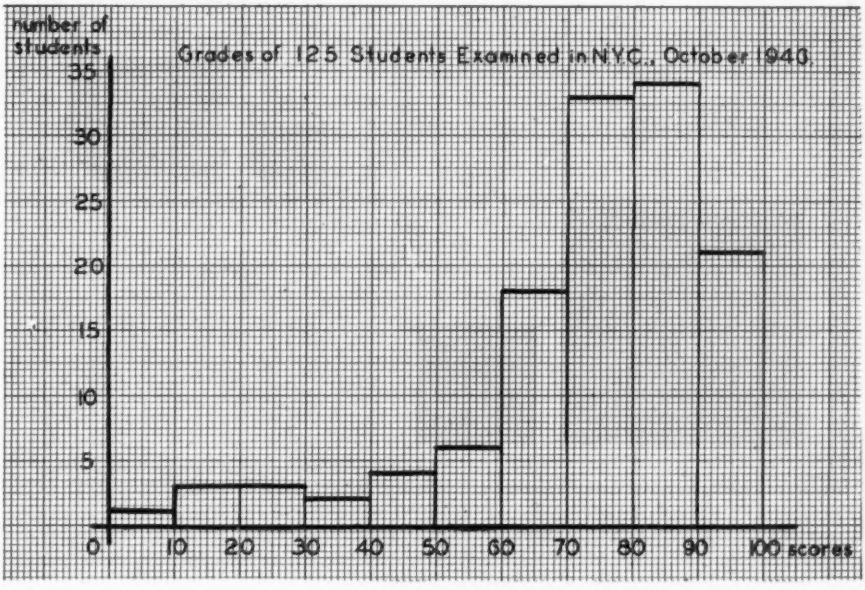


FIG. 6. A histogram or step diagram.

area approximately twice the first one. However, when we get to non-linear dimensions to show changes, we run into distortions. A square of one inch on each side has a certain area (1 square inch); a square 2 inches on a side has an area not twice the first one but four times that (4 square inches). To show a square with an area of two square inches, we must have one with the dimension of the square root of 2, or 1.4104 inches. The difficulty of drawing accurate charts along these lines, in which plane figures represent areas, is so obvious we need not discuss it further.

A solid diagram, that is a diagram of a cubic figure (say a house of varying size) results in even more distortions, for here we have not only square roots to contend with, but cube roots. When we present two pictures of houses, moreover, we introduce the further problem (for the reader) of deciding whether the linear size, the square size or the cubic size (the volume) is being portrayed. (Figure 7.) It is for this reason

that pictorial statistics have the rule that larger quantities must be shown by a larger number of symbols, and not by one bigger symbol. (See p. 47.)

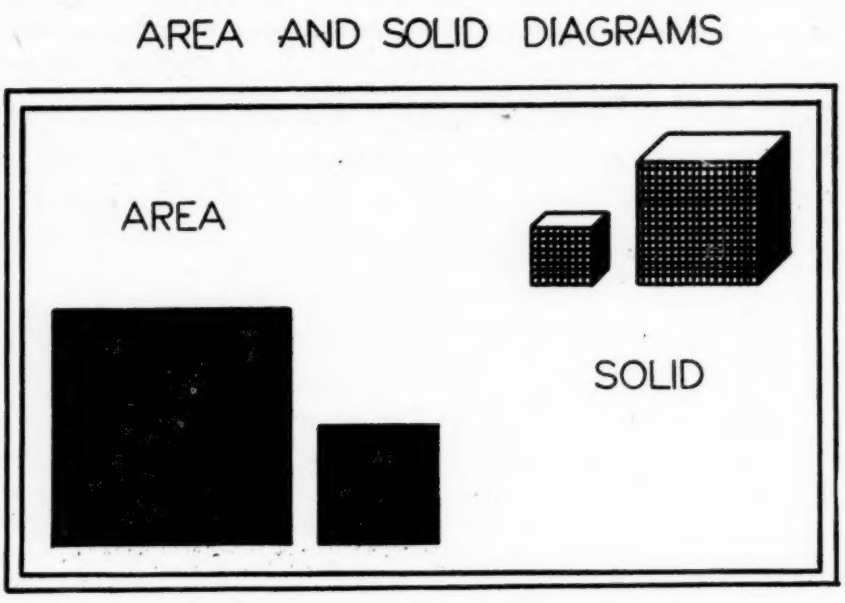


FIG. 7

Pie-Charts

It was Stephen Leacock, in his *Boarding House Geometry,* who made the observation that "a pie can be produced any number of times." The so-called pie chart, or segment graph (Figure 8) has found so much favor recently, that it too has been produced any number of times. The reasons for this are easy to find. The pie chart gives the concept of entirety, 100%-ness, in dramatic and obvious form. The parts of the chart can be labelled so that all the information needed to understand it are apparent at a glance. It can be combined with pictorial statistics with ease. Moreover, it takes a smaller space to give its message than do the other forms of graphs mentioned here. By suddenly interpolating a new geometric form into the rectangular body of text and illustrations, it draws attention to itself. And, finally, because our monetary system is based on a round dollar, which is divided into 100 segments or cents, we are all accustomed to the division of a circle into its component (percentage) parts.

The making of a pie chart is not difficult. What is needed is a blank background, a compass, a protractor, and a straight edge. Let us use the grades obtained by the students examined in their knowledge of how to use a medical library as an example. Suppose we listed the grades,

the number of students who made those grades, and the percentage of total students in each category:

Scores	*Nos. of students*	*Percent of total students*
0–10%	1	0.8
11–20	3	2.4
21–30	3	2.4
31–40	2	1.6
41–50	4	3.2
51–60	6	4.8
61–70	18	14.4
71–80	33	26.4
81–90	34	27.2
91–100	21	16.8
Totals	125	100.0

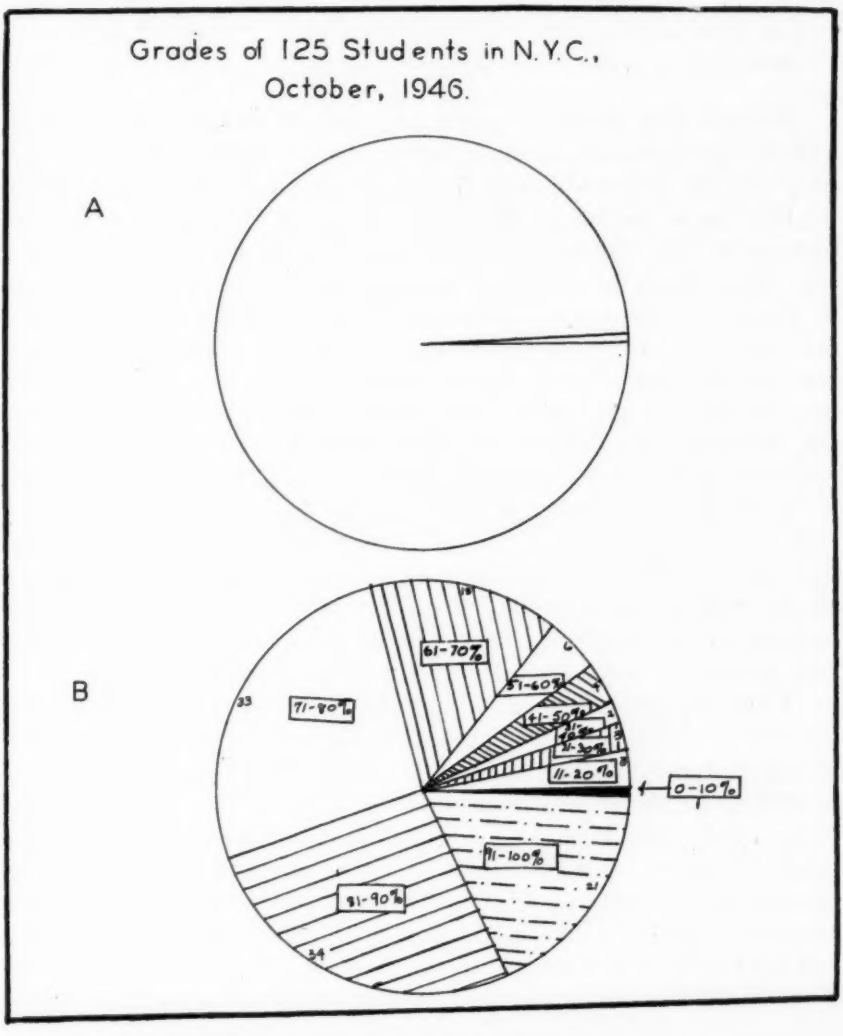


FIG. 8. Method of drawing a pie-chart or segment graph.

There are 360 degrees in each circle. 0.8% of a circle would, therefore, equal 2.88 degrees—or, as the mathematics texts put it, it would subtend an arc of 2.88 degrees. Similarly, 2.4% of a circle would be 8.64 degrees. Continuing this throughout the data, we get the following chart:

Scores	*Percent of total students making score*	*Degrees of circle*
0–10%	0.8	2.88
11–20	2.4	8.64
21–30	2.4	8.64
31–40	1.6	5.76
41–50	3.2	11.52
51–60	4.8	17.28
61–70	14.4	51.84
71–80	26.4	95.04
81–90	27.2	97.92
91–100	16.8	60.48
Total	100.0	360.00

We now draw a circle on our blank paper, by means of our compass, marking the center of the circle with a dot or x. From this center we draw any line (the radius) to the circumference of the circle, and we use this line as our base. (While we can use any line we wish to, it is common to draw the radius at right angles to the edge of the paper—any edge.) With this line as a base, on which to place our protractor, we measure 2.88 degrees. (Obviously it is going to be difficult to measure our angles so exactly. For this reason, we usually "round off" the numbers for our angles to the nearest whole number. 2.88 degrees would thus become 3 degrees.) We now draw another radius 3 degrees distance from the first. (Figure 8A.) The segment located between the two radii represents the students who received scores between 0 and 10%.

From the new radius, obtained by drawing a line 3 degrees away from the first radius, we lay off an arc of 8.64 (really 9) degrees, and this segment of our circle represents the three students (the 2.4% of all the students) who received scores between 11 and 20 percent. We continue in the same way, adding an arc to the last radius drawn, for each percent of students until we get back to the original radius.

There are many methods of labelling pie charts. Sometimes each segment is colored, and a key (or legend) placed elsewhere on the sheet of paper. Sometimes the labelling is placed directly on the segments, in which case the actual figures used to make up the chart are added to the labels. (See Figure 8B.) Sometimes a white space is left on the colored segment, on which the labelling is placed. In cases where the segment is too small to hold the entire label, an arrow is usually drawn from the segment to an adjacent part of the blank paper (Figure 8B) and the label is placed there. Labelling should *not* be placed outside the circle all the way around the chart for this tends to obscure the dramatic

force of the pie. It is also wise to have the labels read in the same direction everywhere on the pie-chart; for otherwise it is necessary either to move one's head all the way around to read the material labelled at all angles on the chart, or else one must turn the book, magazine, etc., this way and that to get all the details.

Organization Charts

The organization chart is another example of graphic representation which is not plotted on graph paper. An organization chart is one which shows the relationships among various discrete stable groups. For example, an organization chart may show the connection between the various segments of a piece of work done—the route, let us say, which a book goes through from the Acquisition Department of a library to the user. It is most frequently used to show a flow of authority or work within an organization, as for example, the relationship between the President of the United States and the members of the federal government. In libraries it is usually met with in a description of the set-up of the staff. (See Figure 9.) It is particularly useful in this field; for, by putting in graphic form the work of the individual members of the

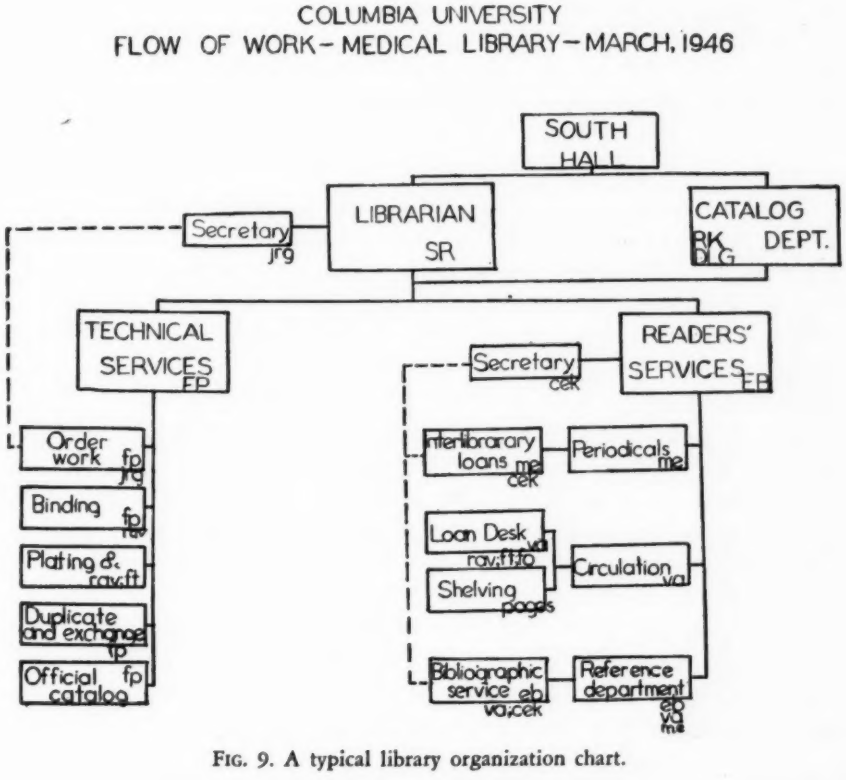


FIG. 9. A typical library organization chart.

staff, it points out the inconsistencies and unfairnesses which sometimes arise in large staffs unless care is taken to go over the organizational set-up at frequent intervals.

The method of drawing organizational diagrams is simple. Each person or each job is represented by a line or box on the chart. Persons who take orders from an individual are placed below that individual on the chart, and lines are drawn from the person who gives orders to the person who takes orders. Where the authority is direct, heavy, unbroken lines are used to join the two; where the authority is devious, a broken line is used. Individuals who report to, or take orders from, two or more sources are shown with lines leading to each of the sources involved. When several people report to, or take orders from, one individual, a line is drawn joining all these lower people together, and then that line is connected with the person in authority.

An organizational chart should be available in every library of more than five or six staff members, for such a chart tells at a glance who is responsible to whom for what, and does away with that unpleasant state of affairs where everyone is giving orders to one person, or one person is responsible to several masters of equal authority. If each person knows what he is supposed to do and where he should turn when in doubt, many of the difficulties of library work would disappear. If every library had a chart of its own organization, moreover, it could compare its set-up with that of other libraries of a similar nature, and adopt the best portions of the others for its own use.

Distortions in a Graph

In drawing graphs, it is imperative that we do not distort the facts we are representing. Optical illusions sometimes distort, but the more common graphic distortions arise from false economy and poor planning. Part of an illustration from A. C. Haskell's book *How to Make and Use Charts* is presented here (Figure 10), in order to show the tricks a few lines can make. Thus it will be noticed that the vertical line in A appears to be much longer than B, though both lines are exactly the same length. In looking at C and D, it seems that D is slightly taller than C, and yet, upon closer examination, we find both have exactly the same areas. Drawings E and F give the impression that the white rectangle is larger than the black, but actually both are the same. Since shading is an important technique in the making of bar charts and solid diagrams, the importance of this point should not be overlooked.

A "cut-graph" is also an optical distortion. A cut graph is one in which part of the grid between zero and the lowest number shown is omitted (Figure 11.) Few people will take the trouble to supply the missing parts in their own imaginations. Not only does the use of this

type of graph distort, but by mutilating the diagram it misrepresents the facts. For that reason there is a rule that the zero line of all graphs must always be shown. Yet in spite of this rule, many graphs are cut, not only to save space but to reduce the cost of the plate when the chart is pub-

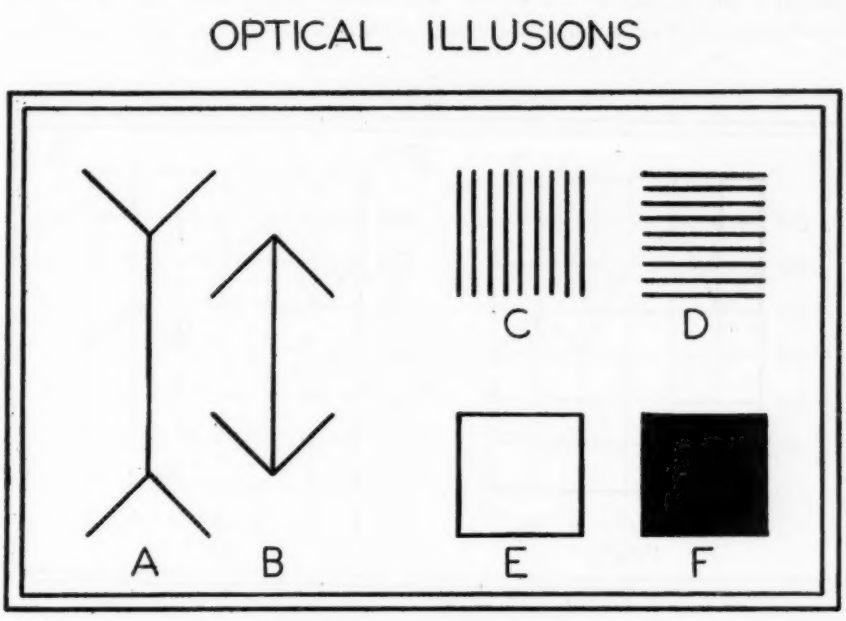


FIG. 10

lished. Drawing B in Figure 11 is an example of such a cut diagram, and shows the tendency which it has of creating misleading impressions of the facts.[2] It also shows the difficulty of comparing graphs which have not been cut with those that have been so mutilated. Even though the curves are the same, the entire impression has been changed.

The choice of the scale values sometimes also distorts the impressions gained from a graph. By increasing the length of the vertical coordinates in Chart A of Figure 12, the highs and lows have become much more pronounced. The same kind of distortion occurs when the difference between the range of values is either too great or too small (See A and B of Figure 12). A graph with a ratio of approximately 1 in height to 1¼ to 1¾ in width is one with the least distortion. For this reason, it is best to plan the grid so that these ratios appear. In general, the scale and grid should be so planned that the plotted data will take up as

[2] It would be better here to include the zero line and show the cut by a horizontal break in the grid. (See Figure 11C.)

much of the scale as possible; and yet at the same time some space will appear above and below the plotted data.

The newer pictorial graphs (where actual pictures of men, books, sacks of grain, automobiles, etc., are used—see page 47) have introduced a psychological distortion. We unconsciously think of objects as tri-dimensional or cubic. Therefore, a picture of a man, who is shown

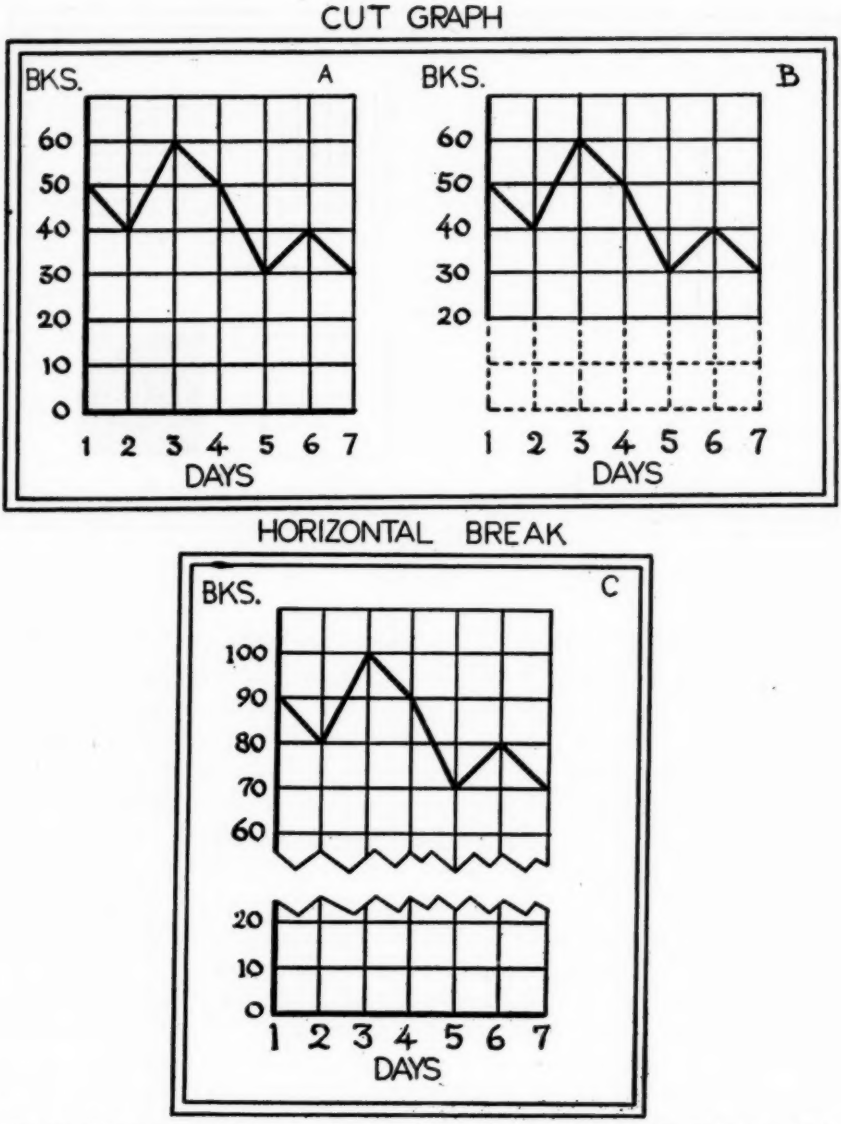


FIG. 11. Cut graphs.—11B shows the incorrect method of showing the omission of the zero line.—11C shows the correct method of cutting a graph.

to us as being two inches taller than another man, is apperceived by our imaginations as being 2 x 2 x 2 times larger—the cube of 2, or 8 times larger. We are thus transposing linear amounts into cubic amounts, and defeating the very foundation and purpose of graphic representation.

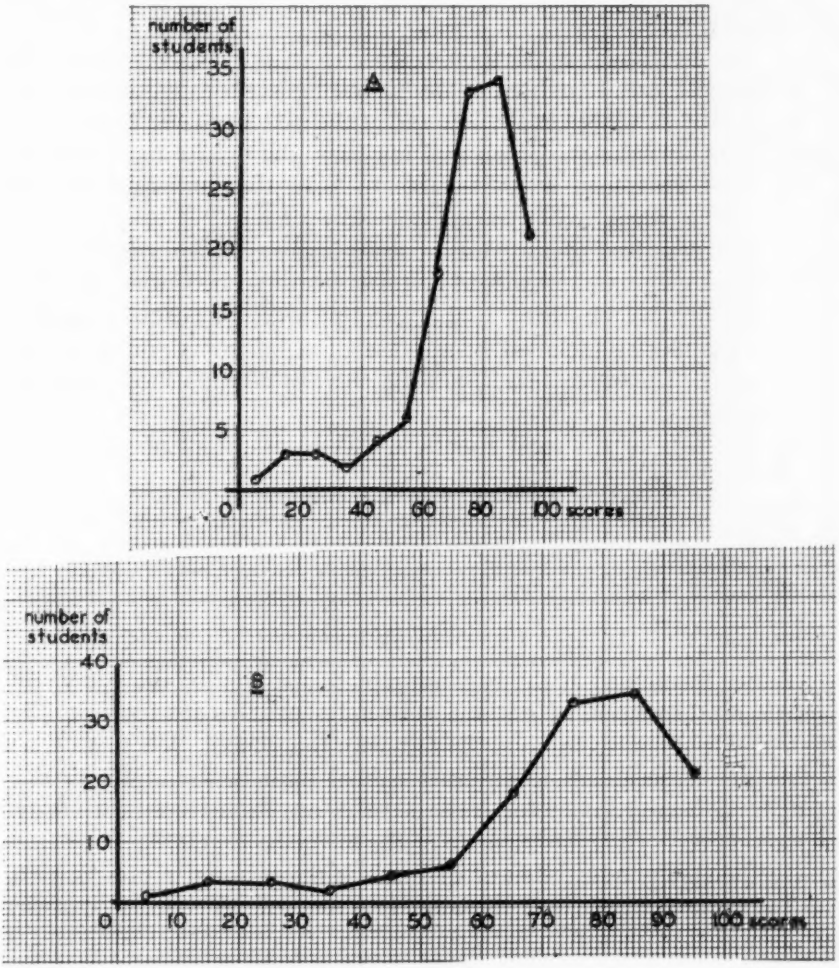


FIG. 12. Distortion in a graph due to choice of scale values. Compare these with Fig. 5VI.

Because pictorial graphs are so much more dramatic than regular line graphs, however, there is no question but that they will be used frequently. We must, however, be careful when we use and interpret them. (This distortion shows up particularly well in solid and area diagrams.)

Because it is so important to include as few distortions as possible, the Joint Committee on Standards for Graphic Representation has put

forth some very pertinent suggestions which are applicable to elementary work in this field:

1. The usual arrangement of a chart should be from left to right, and where possible, linear magnitudes should represent the quantities, because area or solid diagrams are more easily misinterpreted.
2. The horizontal scale should read from left to right, and the vertical scale from bottom to top. The figures for the scales should usually be placed at the left and at the bottom of the chart.
3. In many cases the graph will not show the precise figures of the data. Therefore it is desirable to have the numerical data in tabular form accompanying the drawing.
4. The zero line of the vertical scale is always to be shown on a curve diagram, and should be easily distinguished from the other coordinates. However, if the zero line will not normally appear, it should be included by the use of a horizontal break in the curve. The curve line should be sharply distinguished from the rest of the rulings.
5. The title of the chart should always be as complete and understandable as possible.

In order to insure clarity it may be necessary to include a description or subtitles; and, for the reader who wishes to further his study of the statistical data presented, it is also desirable to include the source.

Pictorial Statistics

As we mentioned at the beginning of this section of the paper, the graphic representation of statistics substitutes symbols for the fact. The attempt throughout is to unite the fact with the symbol. Where accuracy is the prime consideration, an exact symbol must be used. Where dramatic force is most important, some accuracy can be sacrificed for greater pictorial effects. The most accurate of the methods of graphic representation is the line graph; the most dramatic is the pictorial representation.

The most common and the most effective use of pictorial statistics occurs when an increase or decrease of an object is pictured against a time background. For example, in the field of library work, the increase of readers in a library over a five year period, the decrease in clerical staff during the war, the growth of the book collection in twenty years, the changes in the clientele served by the library since its founding, are all excellent subjects for graphs made with the aid of pictorial statistics. Frequently, also, several subjects can be combined; for example the increase in use of the library, the status of the annual library budget, and the decrease or increase in the staff can all be noted on one chart.

Graphs made with pictorial statistics are really bar charts, in which

pictures have taken the place of lines. If we wish to show 10,000 volumes, we can draw a line ten units long and have that represent our volumes. Then we note on the legend that the bar refers to books. That is what we do each time we draw a bar chart. A simpler way is to draw a picture of a book, decide that each book represents 1000 volumes, and place ten pictures of a book on a line. When we do this we obviate the necessity for

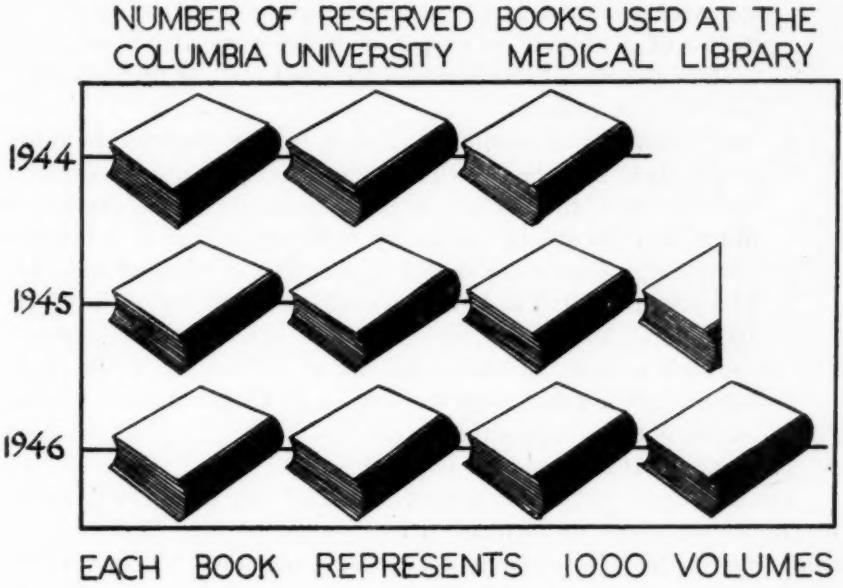


FIG. 13. Pictorial representation of facts.

a legend, but we do make it essential to have a note reading, "Each book represents 1000 volumes." (See Figure 13.)

There are five basic rules about the use of pictorial statistics:

1. The symbols used should be self-explanatory. If this is not true, the prime purpose of the method has been done away with.
2. Larger quantities should be shown by increases in the number of symbols, not by the use of larger symbols. This was discussed in the section on distortions. Obviously the symbols used represent cubic or tri-dimensional objects. A library user shown twice as large on one chart than on another is actually eight times as large in area. Besides, our eyes cannot perceive the difference between a picture of a library user x inches high and one 2x inches high in the same way that it can perceive the difference between one symbol of a library user and two symbols of library users each the same size as the original. (If we seem to be spend-

ing a tremendous amount of time on this point, we should like to remind the reader that this is a matter of intellectual honesty. A chart or diagram which misleads is as much a false statement as a direct lie.)

3. It should be borne in mind that pictorial statistics compare approximate quantities, not exact figures. Relative changes are shown very well in this way, but it is impossible to show, for instance, that there has been an increase of exactly 235.6% in the use of the library over a period of five years. If it is necessary to show the more exact figure, some other method of representation must be chosen.
4. Only comparisons should be charted by this method. In other words, there must be two things which change—usually size and time. To show the number of professional staff members in the library in 1940 may be interesting or important, but as an isolated statement, it should not be put into a chart of pictorial statistics. The size of the staff in 1940—as compared with the size in 1941, 1942, 1943, 1944, 1945, and 1946, however, is properly a subject for such a chart. Similarly, the size of the staff in 1940 in A. Library as compared with the staff in B. Library and C. Library can be put into a pictorial chart.
5. Make the chart as simple as possible.

Limitations of pictorial statistics. We have just mentioned one of the basic limitations of pictorial statistics—namely the uselessness of using this method for isolated facts. There are other fields in which this form is also of little use. Perhaps the subjects which are most tempting and which we should be on our guard against are the use of pictorial statistics for changes which are too small to be shown graphically, and for too many changes in too short period of time.

We must remember that it is very difficult to show exact relationships through pictorial statistics. Suppose the circulation figures of our library varied only a few hundred each year in a total circulation of 200,000. Normally, in these circumstances, we would use a symbol of a book to represent a large number; say 10,000 volumes circulated. A variation of 500 volumes one way or the other would hardly be perceived in our chart, and it would therefore appear that we circulated the same number of books each year. If that were true, of course we would not need a chart.

On the other hand, if there are very large changes in our figures over a period of time, our pictorial chart would become so crowded we would have difficulty in perceiving the facts. For example, if we circulated 100 volumes in 1940 and 100,000 volumes in 1945, we would have to make a chart in which 1 symbol was used to show the 1940

figure, and 100 symbols were used for the 1945 figure. Even a line graph would be difficult to use here—this is a case for the use of logarithmic paper.

Similarly, if our variables change so frequently that we have to clutter up our diagram with many symbols, it would be better to use another form of representation. A clear understanding of the advantages of all the methods of graphic reproduction will allow us to choose the most effective method for the needs of the moment.

Pictorial symbols. Certain standard symbols are used over and over again throughout the country. (See Figure 14.) These can be purchased from Pictorial Statistics, Inc., 142 Lexington Avenue, New York, N.Y. Special library figures needed for charts can be drawn by the librarian or an artist and reproduced in quantity by photography, photostating, letter-press, or photo-offset. They are usually drawn in large scale and reduced to the necessary size during reproduction. Because of this reduction in size, it is important that small details be omitted from the original drawing. In general it is inaccurate, as well as time-consuming, to draw each of the symbols by hand on the original chart.

There are no rules for making pictorial charts which do not also apply to the construction of charts in general. Good taste and good draftsmanship are, perhaps, even more necessary here than in bar and line graphs, which are more stereotyped; but the advantages to be gleaned from the use of this method of representation makes the extra care and work worth it.

Pictures as Illustrations

Numerical figures, as we said earlier, are pictures of symbols. It would be much simpler to use the pictures directly, and do away with the necessity for translating the facts into symbols. However, there are obvious disadvantages to using a picture directly. We can easily say "100 people came to use the library on January 5, 1946," but it would take a great deal more time and material to show a picture of each of the 100 people who came to the library that day. For numbers of facts, all of which have to be included in our writing, the symbol is much more efficacious than the picture. Although we have to do some translating in our mind in order to understand the symbol, the process is much less difficult and time-consuming than actually drawing pictures of the component parts of the symbol.

When we have unique facts, however, the pictures themselves are better than symbols of the pictures. William Harvey happened only once; a portrait is a better description of him than a verbal account of his physiognomy. Similarly, if we wished to describe the visit of the members of the Medical Library Association to our library, a picture

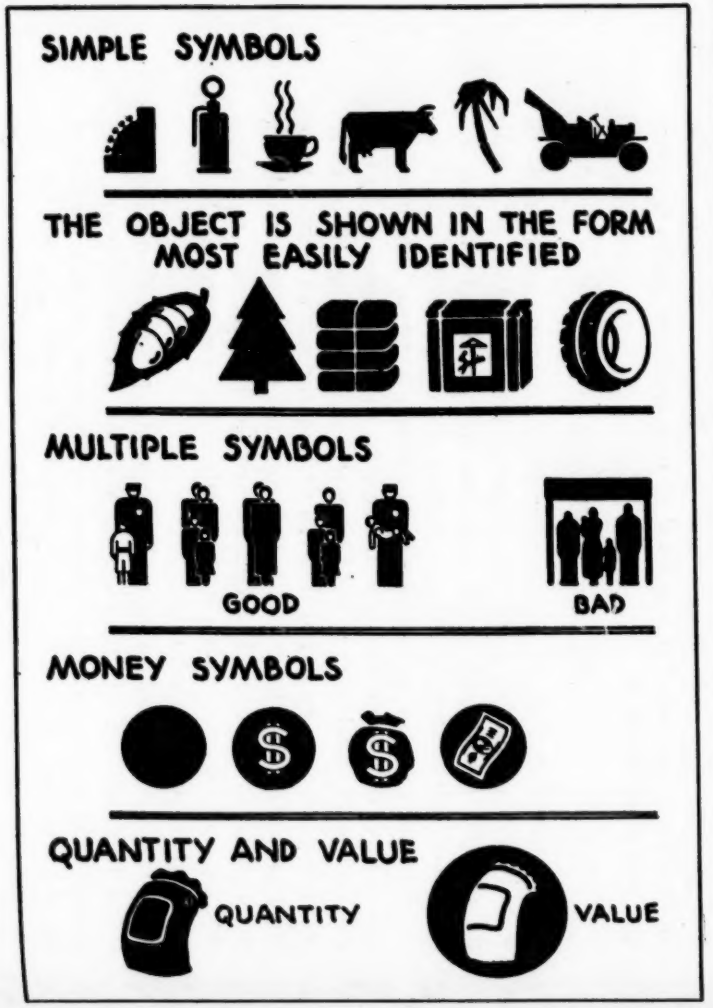


FIG. 14. Standard pictorial symbols.

FIG. 14. Standard pictorial symbols.

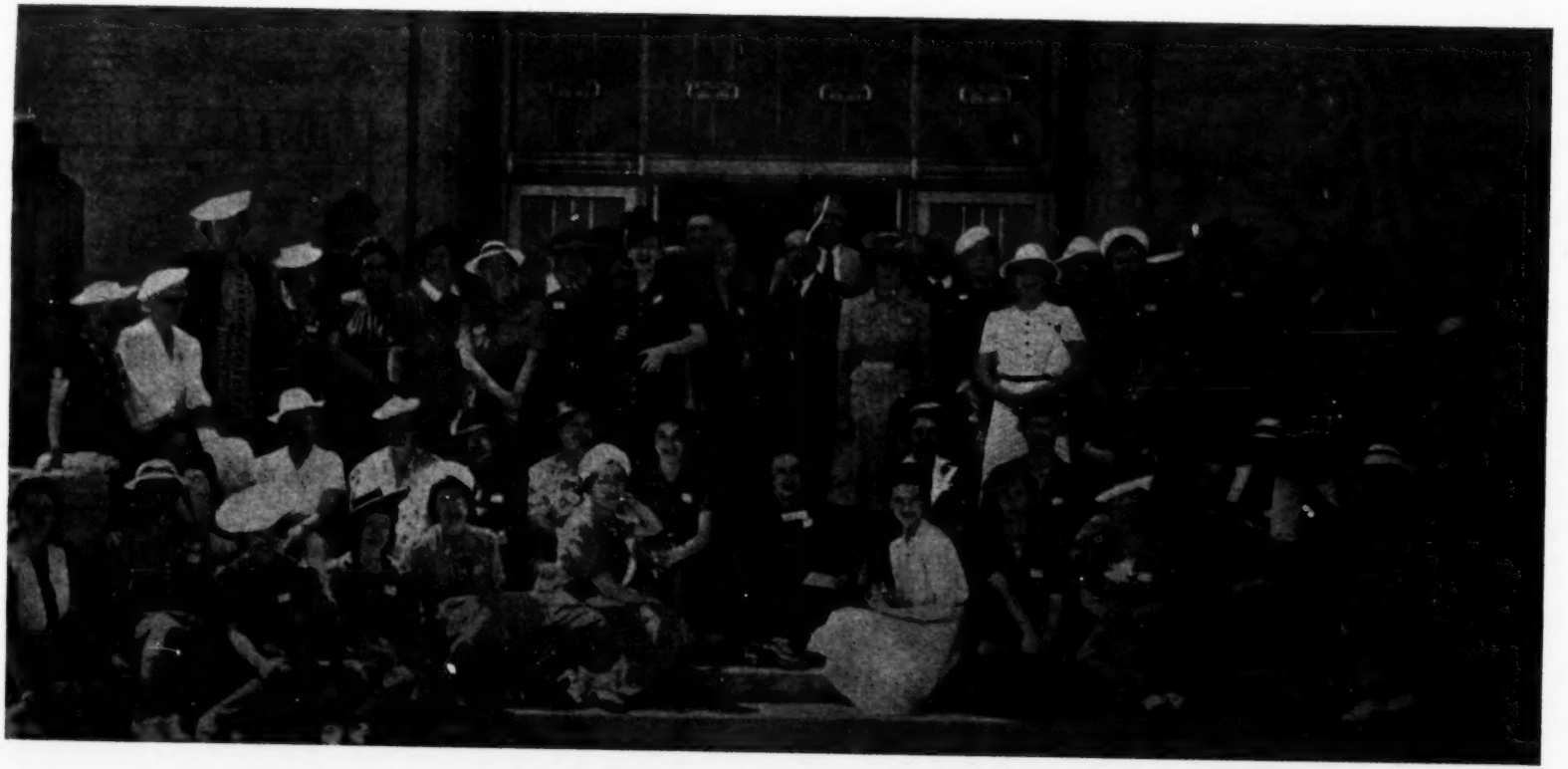


FIG. 15. A picture of a unique event, best illustrated by a photograph. (Meeting of the Medical Library Assn. in Portland, Oregon, June, 1940.)

of one of the meetings would be more complete, more interesting, and more useful than the unaccompanied verbal description. (See Figure 15.) We can talk about the overcrowding in our stacks in every annual report of the library for years, with no results; but if we include a photograph of the fire hazard caused by piles of unbound periodicals close to the fire door, we are more likely to get some action to our pleas for more adequate storage space.

Pictures can be reproduced for publication in various ways. The most common are the photograph, the photostat, the half-tone, the line drawing, and the engraving. For all these methods, except perhaps the last, the sharpness of focus of the original is extremely important. In general, photographs should be printed on heavy, glossy, not matt, paper. They should be large enough in the original so that reduction in size will not result in a blurring or loss of important details. For the most part, it is advisable for the librarian who is planning to use pictures as illustrations to consult with the printer and the editor of the publication, so that the style and method used by that organization can be followed.

Pictures as illustrations are usually more expensive than other methods of graphic representation. Moreover, they can only be used in certain instances. On the other hand, they break up the page of text with important and differently-presented material, they hold the reader's interest, and they become valuable archival material in years to come. (How many librarians would not like a picture of the interior of their library the day it was opened, with all the original staff shown seated at their desks, or working at the catalog, etc.?) The popularity which good photographs can give to otherwise dull material is shown by the Annual Reports of the U. S. Department of Agriculture, and of the Superintendent of Schools of the City of New York from 1930 to the present. A good project for a "Friends of the Library" group might very well be a complete photographic picture of the library—good publicity and good for the archives of the institution.

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Launching of the Association of Medical Illustrators*

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All of us here are aware that this first annual meeting of the Association of Medical Illustrators is a significant occasion. It is an event which we have looked forward to for a long time, for whether we admitted it or not, in the minds of most of us there has been a feeling that our profession lacked the direction, unity and dignity which only organization could give. We have felt the same need for the companionship, counsel, and inspiration which has led men and women from time immemorial to band together into guilds and societies in order that they might pursue a common purpose to greater advantage. A pertinent example of this is the founding in Florence 700 years ago of the Guild of Apothecaries and Physicians out of which two centuries later grew the interest in anatomic illustration which, one might say, became the cornerstone of our profession. It was this guild, as you will remember, that counted among its members some of the most illustrious names of the Renaissance including that of Amerigo Vespucci for whom our country was named, and also our patron saint, the mighty Leonardo da Vinci.

The history of all good organizations shows that they come into being through a certain process of evolution, that they are the natural result of growth and progress and the need of the times. So I think it has been with us. Earlier attempts to bring together the medical illustrators have been made. Although these early efforts failed, they were praiseworthy and the experience gained contributed to the realization of our present Association. Perhaps it is just as well that we waited because our numbers have grown and conditions today are more propitious. Shakespeare tells us that "There is a tide in the affairs of men which taken at the flood leads on to fortune." There are many indications that we have chosen the right time to launch our craft on the flood. It is a small craft, but it is built as well as we know how. Its hull is

* President's address at First Annual Meeting of the Association of Medical Illustrators held at Philadelphia, September 23-26, 1946.

constructed of seasoned timber and we believe it is strong and seaworthy. There is still work to be done before we can set sail, but the work is under way and by the end of this meeting our ship should be completed and ready to set forth with a carefully picked crew. We have chosen our objectives thoughtfully and with a full sense of responsibility to medical education. They are clearly stated in our Constitution as follows:

> The objects of the Association are to promote the study and to encourage the advancement of medical illustration and allied fields of visual education; to advance medical education, and to promote understanding and cooperation with the medical and related professions.

These are broad and worthy aims and we are resolved not to be diverted from them. Expressed in less formal language they mean that we have set our sights high. We propose to raise the standards of medical illustration and expand its scope. To this end we expect to study and try to better understand the problems of the teacher, scientist, physician and publisher, and all who are concerned in the wide field of medical education. In the process we hope to get better acquainted and have some fun. Somehow I felt that in the minds of all of us who met in Chicago and who wrote this clause into the Constitution was the feeling that it was also a self-imposed pledge that we will resist all temptation to take any action or endorse any conduct which is not altogether compatible with these aims.

It would be a mistake to think that these objectives which we adopted are visionary or too far distant to be attained in our day. On the contrary they are exceedingly practical and the agenda of this meeting outlines and initiates the program which should lead to their realization. I have every confidence that this is so. It will take work and probably some sacrifice which the gains will more than justify. We will have to begin with some self-analysis and a redefinition of the functions of the medical illustrator as well as a clear concept of his place in the scheme of things. For while we have been plodding along at our drawing boards trying to keep up with our routine daily work and isolated from contact with each other, things have been happening in education and the communication of ideas that are very much our concern.

In order to better appreciate the situation which exists around us today, it might be well to take a glance back over the road we have traveled. Fifty years ago medical illustration in the professional sense was virtually non-existent in the United States. Medical journals and books were sparsely and for the most part crudely illustrated. A search through the medical journals of this period shows that the ratio of pictures to pages of text was about 1 to 8 while in comparable journals today a picture will be found for each 1½ pages of text. In books the

increase is even greater. Photo engraving, still a relatively new invention, had just begun to supplant hand engraved cuts. I can remember visiting an engraving room shortly after I began making medical drawings in 1904 and watching a row of men engraving by hand the so-called chalk plates of the time.

In those days, in fact all the way up to the first World War, medical illustrators spent a large part of their time doing drawings of pathological specimens or, hunched over a microscope, painfully copying with the aid of a camera lucida, the minute details of what they could see in the magnified field. Eye strain almost amounted to an occupational disease and headaches resulting from 7 to 8 hours peering through an eyepiece were common with some of us. If we sometimes looked a bit bleary-eyed and haggard, no one was likely to accuse us of dissipation because they knew that it was impossible on the income we were making.

Happily photography began to take over routine specimen and microscopic illustration and left us to more diverse and interesting kinds of work. I don't want to give the impression that we old timers had to put up with undue hardships. As a matter of fact life was much less complicated than it is now and the people for whom we did drawings, having seen few really good ones, were easy to please and thought our work wonderful. Life was more leisurely and we could spend some time with our families and do a bit of painting or etching occasionally. We weren't harried and importuned as many of us are now by obligations and overwork that keep us one jump ahead of a nervous breakdown. Perhaps the worst hardship we had endures today in spite of the dubious publicity which our craft has had in recent years. It was explaining to puzzled lay friends just what sort of work we did and how we happened to get into it.

Unlike the second World War the first one had little or no effect on medical illustration. It had not occurred to the army and navy to use visual technics in their training program and medical education plodded along much as it always had. We had not begun to use motion pictures as a teaching medium and medical exhibits which are rarely seen were primitive affairs indeed compared to what we have today. As I remember, most of them consist of a large amount of lettered material with an occasional graph, and on a shelf or nearby table a few specimens preserved in formalin. In the early twenties the collecting and preservation of specimens was an important activity in medical schools, and while few of them felt able to afford the luxury of a staff artist or professional photographer, they all regarded a pathological museum as indispensable. I mention this because ironically enough these museums are now becoming obsolete through the growing practice of using natural colored slides instead.

By 1925 illustrations were becoming a factor of major importance in medical literature of the day. Mr. Max Brodel's beautiful drawings had appeared in several books and attracted wide attention. His pioneer school at Hopkins had become the cradle of medical artists in America from which trained men and women were going forth to supply the slowly increasing demand. Here let me say that this demand resulted in large part from the efforts of the editors of our publishing houses. They were, in my memory, among the first to encourage the illustrator and show an active interest in his work.

As we emerged from the depression of the early thirties one began to hear more and more the expression "Visual Education." It came along with developments in colored photography, motion pictures, animation and a new kind of advertising. Picture magazines began to appear on the newsstands and educational films in schools. We seemed to discover all at once something that we already knew and had known for a long time but had never taken very seriously. It was the very simple and obvious fact that information and ideas can be communicated with more speed and efficiency when visual aids are added to words than when words are used alone. The idea was gradually put into practice along a wide front in business and the commercial world and everywhere the results were beyond expectations. Then World War II came along and millions of men were trained by coordinated visual technics so quickly and so well that it made history and profoundly affected the teaching machinery of the nation.

If the history of medical illustration in America is ever written (and I hope the AMI will some day promote such a project) the past five years will probably prove to be the transition period when our profession passed through adolescence and became an adult. Many things happened which were the logical if not inevitable reflections of the rapidly growing trend toward the expansion of visual forms of instruction. Time permits mention here of only a few of the more significant items. We might start with the medical art service established at the beginning of the war by the Surgeon General of the Army and its counterpart in the Navy. Then in more or less chronological order, the employment of two of our members to newly created positions of Art Editors in leading medical book publishing companies; a symposium on visual education in medicine held at the last meeting of the Association of American Medical Colleges in which two medical illustrators were invited to take part; the establishment of Civil Service positions for artists and photographers in Veterans Hospitals and other government departments; the requests from two foreign countries for assistance in the development of their medical education through visual technics; the decision of some of our junior colleges and academies to add to their curricula, prepar-

atory courses leading to medical illustration. Other developments might be mentioned such as the plans of several additional medical colleges to develop comprehensive illustration departments and the announcement of a series of articles on anatomical art, past and present, to be published in one of our prominent medical journals. I think you will agree that all in all this is fairly conclusive evidence of the rising tide of visual education in medicine.

It is a gratifying situation but a bit bewildering too because we did not anticipate such rapid growth and were not prepared for it when it came. Now that it is upon us, we are like the Sorcerer's apprentice and can't turn off the flood. Well, we do not want to turn it off and it wouldn't make any difference if we did. The truth is that medical illustrators are caught in the current of a major trend for which they should have been better prepared. I do not mean in point of numbers necessarily but in failure to expand the scope of their craft to provide the widening needs of medical education. We were content to be picture makers despite the fact that it was our obvious responsibility to provide the services needed to design and produce other graphic media which were being more and more demanded. It was also obvious that public health, nursing training and the ever-widening field of communication between medicine and the public needed the interest and cooperation which we could supply. It is not necessary to be specific or to cite statistics here. One needs only to look around. Teaching exhibits alone have increased in number and importance within the last decade about a hundred per cent. Museums of health are springing up in American cities and an enormous demand has developed for technical and semi-technical illustrations for medical and health articles in lay magazines, books, pamphlets and even daily newspapers.

Advertising, as we know, has widened the horizon of the medical artist in recent years. It is a legitimate and interesting field which offers him (or her), a wide scope for good design and imagination. He is less restricted as to medium and size and can usually work in full color with the knowledge that his drawing will be well reproduced. The better class of these illustrations have little or nothing to do with the manufacturer's product and come under the head of good will or indirect advertising. They impose upon the artist a very real responsibility as they can contribute something quite worthwhile to the graphic literature of medicine. His responsibilities are heightened by their enormous circulation among physicians and the fact that prints of his work are used for teaching in many laboratories and schools.

It is hardly necessary to comment on the increase in publishing at the technical level. The output of illustrated books is steadily growing (or was up to the paper shortage) and I am informed that the

number of medical journals published in the United States has now reached 234. If advertising or trade journals of pharmaceutical houses carrying medical text is added, the number reaches about 500.

One need not be a prophet to predict that three dimensional teaching aids will more and more demand the attention of the medical illustrator of the future. He will be expected to design and produce a variety of models and moulages that will call for skills and craftsmanship that few now possess. The present use of plaster, paper maché and wax will probably give way to the newer molding materials which have opened up vast and fascinating possibilities in this field. By using the new plastics it is now possible to produce models which are lighter, stronger, more enduring and beautiful and with a higher teaching potential than anything of the past. The experiments which we have been making with some of these plastics at the University of Illinois for the past two years show that models of any degree of transparency are practical and within a few years can probably be produced in any well equipped illustration department. This quality of transparency which allows underlying structures to be seen in relation to the surface has unlimited possibilities. It amounts almost to a fourth dimension. A further factor is the unique property of some plastics to carry light. This is a valuable attribute in itself, but it also suggests how electrical impulses might be added to teach physiological and other phenomena which can now only be demonstrated on living animals.

Motion picture animation is another concern of the medical illustrator which one can safely say is destined to play a far more important role in medical education than it does now. It is the one unique medium that can reveal the hidden dynamics of normal growth and disease and the mysterious processes of life and change within the body. It is generally agreed by teachers as well as producers that the major development of educational films of the future will be in the field of animation. Some maintain that motion picture photography has been pushed about as far as it will go and artists must carry on from here. At any rate we have had ample evidence that the high quality of animation demanded of scientific medical films can not be produced by artists untrained in their subject. Producers will have to follow the lead of the American College of Surgeons and employ a professional medical illustrator to design and supervise animation of a technical medical nature.

These are only some of the more evident areas of the expanding function of the medical artist. As important as they are, I am inclined to place at the top of the list his responsibility within the institution which employs him. In the old days the illustrator was a lonely soul who was hired to make scientific drawings when they were needed and little else was expected of him. His contacts were limited and he was a

negative factor in the affairs of his institution. This is a fast disappearing situation. In medical colleges particularly, the demand is growing for the more comprehensive service which we call visual education. In my travels around the country I have talked with a good many teachers and college administrators about this and have a fairly clear idea of what they want (and I might say of what they intend to get!). They are thinking in terms of unified visual education service within their institution which can not only supply all the graphic materials required for teaching, research and publication but where they can seek and find the ideas and cooperation needed to integrate all visual technics into the activities and programs of the institution. Several such departments already exist among the seventy-seven medical schools in the United States. Attempts to organize some eight or ten others are now under way. I say "attempts" because individuals who can meet all the requirements are hard to find. In few cases is it a matter of money. Most of these institutions are prepared to pay adequate salaries if they can find the man or woman who measures up to their specifications.

This brings us to one of the primary concerns of the Association, the training of the medical illustrator. We discussed this at some length at the organization meeting in Chicago, and the Board of Governors appointed a committee to study the problem. The committee consists of directors of all the schools offering courses in medical illustration. They have taken their job seriously and I have high hopes that their deliberations will lead to an overhauling and modernization of our existing training methods and that agreements will be reached on minimum standards, entrance requirements, and a type of curriculum designed to turn out men and women equipped to meet the responsibilities which modern conditions demand.

This can not be accomplished all at once. It will take time and experimentation. If the directors of the schools can, at this meeting, find a reasonable solution to some of the problems which have troubled them all, a good beginning will have been made. It may be that we can agree on the principles of a basic course which offers no undue barriers to the student who must learn to make a living in a reasonable length of time. It may not be possible to make such a course comprehensive enough to meet all of the present requirements of visual education, but if it is sound and thorough, it could lead to further study of a graduate nature carrying a suitable degree. There will probably always be a demand for trained illustrators in special fields and at different levels. If they are competent and dependable in their particular sphere they can be useful and self-respecting members of society.

Whatever is accomplished by the Committee on Education will be dependent to a large degree upon the cooperation and interest of medi-

cine and its institutions. In effect this is true in all our affairs because our craft does not exist as a separate entity but as part of the fabric of medical education. If we as an association ever lose sight of this intimate relationship and interdependence, we go downhill. By the same token, we can mutually prosper if we work together and each seek the counsel of the other. In the field of teaching our interests and efforts are parallel. They have the same objective although we sometimes forget this (as editors have reminded us). The artist may call his work a drawing if he will, and the photographer may call his a photograph, but if it is to be a success, each must *think* of it as an illustration. The ultimate function of the illustrator and medical writer is much the same. They just use different media to communicate with their audiences. One produces the written literature and the other the graphic literature of medicine. Recognizing this broad mutuality of interest the AMI Constitution provides for Associate Members from the medical and teaching professions. We are looking forward to inviting into the Association a group of such men who have a special interest with us in the development of visual education.

These are some of the major interests, problems and aspirations of the Association as it begins its career. If this were a complete report it would have to include many other items pertinent to our plans and to our relationship to medical education. Time permits the mention of only a few. First, the international character of the AMI; we want foreign countries to know that membership is open to them and that we are interested in their problems. The war has set back the training of their doctors, nurses and public health personnel, and they need our help in rebuilding their medical education along modern lines. For instance an offer to take a few of their students for training in medical illustration and the use of visual teaching technics would be appreciated. We might remember that our present leadership in visual education is a very recent thing, and in the days when we had nothing (just a few decades ago) Europe gave us the great reference books which we still use, including the bible of the medical artist, Spalteholz' anatomy. We have much to learn from some of the lands beyond our borders and a policy of cooperation at this time would gain for us far more than we could ever lose.

Earlier I referred to our responsibility as individuals for the development of graphic teaching methods. We have as well obligations as an organization which we will have to be prepared to meet. There is the matter of a registry of names and information regarding illustrators which the Association should maintain as a service to medical men and institutions. Such a registry has long been needed and will serve a valuable purpose.

In order that we may maintain a year round line of communication between ourselves and also with the medical profession generally, it is necessary that we establish as early as feasible some form of journal outlet or newsletter. Such a publication would at first probably have to be limited to Association affairs and news items about the members. We are already thinking beyond this, however, and it may well be that out of a modest beginning will grow a journal which will reflect the broad aims of the Association. Such a publication carrying illustrations would not only serve the needs of the medical artist but would have considerable interest to all concerned in the communication of medical knowledge. It could be a forum for the discussion of graphic teaching technics where the various approaches to visual education could find expression and where the ideas of illustrator, editor and teacher could meet on common ground.

At this first annual meeting of the Association of Medical Illustrators it has seemed proper to present as far as possible a rounded picture of its character and its relationship to the world of medicine. Our organization is small but it is made up of men and women who have pride in their profession. They realize their responsibility and have tried to build out of the experience of the past and the trends of the present an organization geared for the future.

Reports of Officers and Committees 1945-1946

REPORT OF THE EXECUTIVE COMMITTEE
JUNE, 1945, TO MARCH, 1946

We are happy to resume our meetings, having been interrupted for four years by travel restrictions due to War. For the most part the officers and committee personnel are the same, as elected *or* appointed in 1942. Not knowing how long the unsettled condition would last, the Executive Committee deemed it wise to have reports written yearly and published in the Bulletin, in order to keep the membership aware of the Association's activities. We trust you have read these reports; they were meant to keep you informed until we were able to call a meeting.

As Chairman of the Executive Committee, I shall attempt to give you some of the salient points of the activities of the Association as a preface, to the reading of the Committee reports by their respective Chairmen; their activities all merit separate consideration.

I cannot refrain from mentioning, first, the Association's literary enterprise—*The Handbook*—sale of which has been phenomenal. Its first printing of 1,000 copies was in June, 1943, and by the end of the year another reprinting of 500 copies was needed. At the moment, it is out-of-print, and we are in the process of subsidizing another reprinting. I will leave fuller detail for the reading of Miss Doe's report. The Committee which consisted of twelve members, with Miss Doe as Chairman, has done a remarkable piece of work and it is to be highly commended.

The *Exchange* and the Bulletin as you probably know have had difficult times. The personnel of *both* has changed twice since the 1942 appointment; we are pleased to report however that they continue to function at top speed, and we wish to extend our gratitude to all who in the past, as well as the present, have given their time and effort toward these important functions of the Association.

During the course of the four years our Association has been called upon to appoint representatives and advisers at many conferences. We have been represented by different members of the Association at seven meetings of the Council of National Library Associations; on the Inter-

national Relations Board of the Special Libraries Association; the Joint Committee on Foreign Importations; the American Documentation Institute; the Joint Committee on Hospital Libraries; and the American Russian Institute. There are probably others not included here; we hope to hear from all of them through the reading of reports.

At the New Orleans meeting in 1942, the Medical Library Association accepted the invitation of the Army Medical Library to collaborate with "The Friends of the Army Medical Library" in the publication of *Current List of Medical Literature*. The project has now been taken over by the Army Medical Library. This publication has certainly proved to be a useful tool for the advancement of medicine and I am sure that it has been especially helpful to all of us.

The Committee on Medical Library Service for the Army Forces was formulated immediately after the 1942 meeting. Miss Marshall, the Chairman, and her Regional Directors continually reported favorably on the willingness of all librarians to extend their library facilities to this cause. Miss Marshall will report on this special committee.

The Chairman of the "Committee on Periodicals and Serial Publications," Mrs. Eileen Cunningham, was kind enough to act as our liaison member co-operating with "The Committee on Aid to Libraries in War Areas"; and, "Joint Committee on Books for Devastated and Other Libraries." Through this affiliation Mrs. Cunningham was requested to compile the Medical Section of the "American Library Association List of Books Published in the United States during 1939-1943." This list was evaluated by various physicians and scientists throughout the country, and because it could not be included in the A.L.A. List in its entirety, was published in full in our Bulletin. Reprints of this list, and copies of other medical library procedure publications were sent to Brussels, as our part of a United States Educational Exhibit.

The Association has endorsed the program of the United Nations Educational, Scientific and Cultural Organizations (UNESCO). We have placed the Association on record in the form of resolutions and letters, as being in favor of the extension of cultural relations to other countries.

The Association's financial status will be reported by the Treasurer; Growth of Membership; Recognition of Members Deceased, Retired, etc., will all be mentioned through statistics given by other reports.

Notice of "Proposed Changes to the Constitution and By-Laws" has been sent to each member prior to the meeting. These changes have had the approval of the Executive Committee and we hope they will meet with your approval. The procedure recommended seems to be standard in most associations.

Your President, Treasurer, and Secretary are all relinquishing office

this year. They have carried a tremendous load and should be thanked whole-heartedly by the Association for their endurance. No group has stood for greater service. We all know the pride and loyalty with which the officers and committees have worked for the good of the Association. This *almost* complete turn-over of officers naturally gave the Nominating Committee a big task. The ballot has had the approval of the Executive Committee, in accordance with the By-Laws, and we trust you will all support the newly-elected officers. The Association continues to grow; the affairs become greater; and we must all help.

In closing I cannot help but add a few more words to express my sincere thanks and appreciation to all my co-workers, especially to our President, Miss Marshall, for her guidance, loyalty, and, always, professional dignity.

Respectfully submitted,
LILY HANVEY ALDERSON
Chairman, Executive Committee

REPORT OF THE SECRETARY, 1945-1946

For all of us the four years since our last annual convention in 1942 have been difficult years. Both as individuals and as an association we have shared the trials and the burdens of the war period. Some of us have been in active military service and our foreign members have endured destruction by bombing and enemy occupation. The numerous changes on our membership records over this period show how much the war has shifted even professional people from place to place. All medical libraries have faced unusual problems: accelerated courses of study, service to army and navy bases stationed in their vicinity, demands for unusual and remote material, shortage of material, service, and help of all kinds, frequent turn-over of staff and clientele. In spite of all these difficulties, medical libraries have maintained and expanded their functions.

The Medical Library Association also has weathered the stresses of the war years. Your officers and committees have carried on the work of the association and have even taken part in new fields of service. The Special Committee on the Medical Library Handbook has become the Committee on Medical Library Procedure, to which are referred all appeals for help in organizing and administering medical libraries. More and more we are engaged in co-operative enterprises with other agencies and organizations. We have had representatives on the Joint Committee on Hospital Library Service, on the Joint Committee on Books for Devastated and Other Libraries of the Council of National Library Associations, and at the Special Libraries Conference on Russian

Materials. We have also cooperated with the Committee on Aid to Libraries in War Areas.

In July, 1945, we sent a collection of medical library publications to the Foreign Information Research Division of the Office of War Information. This material was included in an exhibit held in Brussels, Belgium, in September for the purpose of acquainting the people of Belgium, Holland and Luxembourg with the technical, professional and scientific progress made in the United States during the war years. Later the exhibit was also shown in Paris.

* * * * *

Material Sent for Brussels Exhibit

Sent by:	
Col. H. W. Jones, *Army Medical Library*	Index-Catalogue, v. 7 Recent issues of Current List of Medical Literature
Mr. Ballard	Boston Medical Library Classification, ed. 3, pt. 1 Catalog of Manuscripts and Incunabula in the Boston Medical Library
Mrs. Cunningham	Cunningham: Classification for Medical Literature 50 copies: Medical and Scientific Periodicals in the Post-war World (reprints)
Major Keys, *Editor*	*Bulletin of the Medical Library Association* v. 30, 1942, nos. 2-5 v. 31, 1943, nos. 1-4 v. 32, 1944, nos. 1-4 v. 33, 1945, nos. 1-3 100 copies: Mrs. Cunningham's Selective Check-List of Medical Books (reprints)
Miss Pliefke, *Secretary*	Doe, Janet, ed.: Handbook of Medical Library Practice 10 copies: M.L.A. Constitution 50 copies: New M.L.A. Information folders 2 copies: A.M.A. Suggestions for the Hospital Medical Library (reprints) 2 copies: A.C.S. Suggestions for the Hospital Medical Library (reprints)

* * * * *

Our association has endorsed several governmental and legislative measures designed to further cultural and scientific relations with other countries. We have endorsed the extension of activities of the Office of International Information and Cultural Affairs of the Department of State, participation in the United Nations Educational, Scientific, and Cultural Organizations, and bills authorizing the sale of surplus government properties abroad and use of the proceeds for the exchange of students.

Early this year we received a letter from Mr. Marcel Godet, President

of the International Federation of Library Associations, in which he requested information about the recent activities of our association. He also requested up-to-date information to be included in the *Répertoire* of the Federation's member associations, which has not been published since 1938.

The employment service has enjoyed an unusually active year. Seventeen libraries, located in twelve different states, turned to us for help in locating medical library assistants. Librarians in search of positions were not nearly so numerous, totaling nine and representing seven states. The employment folder in the Secretary's file has now grown to sizeable proportions and the correspondence involved has increased to the same degree.

And now your Secretary would like to clear up the mystery of the missing membership certificates and you would undoubtedly like to get a report about them. They are still safe in the Secretary's possession where they have rested for the past four years. Had this convention met later in the year, they would finally have been in your hands as they should have been long since. Time and again they have had to be put aside in favor of more urgent association work, or because your Secretary's most recent assistant had departed for greener pastures, and because science still has not produced a day which can be extended beyond the customary twenty-four hours. If your patience can be extended a few weeks more, the long-awaited certificates will go out to you, a postscript to the present term of office.

Our membership has shown a steady increase in all classes. We are happy to record the return of several foreign members whose connections had been severed by the war. Also we have added members in the Canal Zone, in Uruguay and in Czechoslovakia. Membership statistics as of March 15, 1946 reported to the Secretary are as follows:

	Additions	*Losses*	*Total*
Honorary:			
Membership May 31, 1945	5		
(No changes)	..		
	5		5
Library:			
Membership May 31, 1945	255		
New Members	12		
Reinstated	1		
	268		
Resigned		1	
			267

Supporting:			
Membership May 31, 1945	124		
New Members	10		
	134		
Resigned		3	
			131
Professional:			
Membership May 31, 1945	209		
New Members	30		
	239		
Resigned		13	
Dropped		2	
Deceased		1	
		16	
			223
Total			626

We are sorry to record that since our 1942 meeting we have lost by death a number of members in all classes. Among them were the following former officers of the Medical Library Association:

Dr. John M. Armstrong, St. Paul, Minn. Vice-President 1939-40. Deceased Dec. 19, 1945.

Dr. Lewellys F. Barker, Baltimore, Md. Vice-President, 1920-21. President, 1921-22. Deceased July 14, 1943.

Miss Ella B. Lawrence, St. Louis, Mo. Manager of the Exchange, 1928-42. Deceased Oct. 6, 1942.

Dr. John L. Rothrock, St. Paul, Minn. Vice-President, 1898-99. Deceased July 5, 1943.

Dr. Walter R. Steiner, Hartford, Conn. President, 1931-33. Deceased Nov. 4, 1942.

Other members who have passed from our ranks are the following:

Honorary:

Dr. Samuel W. Lambert, New York City. Deceased 1942.

Supporting:

Dr. Charles W. Burr, Philadelphia, Pa. Deceased Feb. 19, 1944.

Dr. Logan Clendening, Kansas City, Mo. Deceased Jan. 31, 1945.

Dr. Annie S. Daniel, New York City. Deceased Aug. 10, 1944.

Dr. J. H. Elliott, Toronto, Canada. Deceased Dec. 18, 1942.

Dr. Howard A. Kelly, Baltimore, Md. Deceased Jan. 12, 1943.

Dr. John R. Oliver, Baltimore, Md. Deceased Jan. 21, 1943.

Mr. Bonar Souchay, New York City. Deceased 1943.

Mr. J. W. Stacey, San Francisco, Calif. Deceased 1943.

Dr. Charles B. Ward, Seattle, Wash. Deceased Mar. 27, 1943.

Professional:

Mrs. Loretta C. Kahler, Library, Medical and Chirurgical Faculty of the State of Maryland, Baltimore, Md. Deceased Nov. 1945.

Miss Marion Kappes, Joseph Brenneman Medical Library, Children's Memorial Hospital, Chicago, Ill. Deceased Dec. 8, 1945.

Mrs. Helen D. Townsend, Los Angeles County Medical Association, Los Angeles, Calif. Deceased Nov. 1942.

Miss Florence L. Wickes, Stanford University, Lane Medical Library, San Francisco, Calif. Deceased 1943.

Miss Thelma Ruth Wiles, Library, Dental-Medical-Pharmacy Library, University of Maryland, Baltimore, Md. Deceased July 4, 1944.

We are mindful of the loss which we have sustained in the passing of such valued friends and associates. They were all faithful colleagues and supporters of medical libraries and of the association. We honor their memory and regret their loss.

Respectfully submitted,
FRIDA PLIEFKE, *Secretary*

REPORT OF THE EXCHANGE

Statistics

From September, 1945 through March, 1946, seven lists were published with a total of 239 pages—70 lines to a page. On these lists there were 102 lots, 73 of which have been assigned. Thirteen of these libraries have sent in statistics. As nearly as can be estimated 5,006 unbound items and 368 bound ones have changed hands. A list of contributing libraries will be published. Because our meeting is so early our report must of necessity be incomplete and I leave it to your imaginations to enlarge on the statistical part of the report. Before we leave the subject of statistics, may I ask that after you ship your duplicates you send a report to headquarters.

We do not want to run the risk of being placed in the pest class, but there are still a few things which could be done to oil the Exchange machinery.

1. When you receive your key number have a stamp made of at least three-quarters of an inch in height and stamp in red ink every sheet of your requests. If you so desire this stamp could include the size of your collection, and would be one less item to remember to type. Please write out your library's size in full; for instance 38,000 and not just 38. Our reason for this request is that such a procedure cuts down the possibility of having any other figure confused with the key number, or lot number.

2. Uniformity is a lovely art. We wish you would use the sign for number, with which all typewriters are equipped, instead of brackets, commas, dashes, and sometimes just a space. At the risk of being repetitious, we again mention 8 x 10 size paper. A quire of yellow paper this size costs a quarter, and would last any library a full year. It would be a priceless boon if all libraries would take this request to heart.

3. We urge you to be prompt in sending out your assignments. It is discouraging to hustle through a list at your request; get the assignments sent to you in jig time; and then have a lapse of several months before they are shipped.

May I take this opportunity to say how proud I am to be the manager of the Exchange.

Respectfully submitted,
MILDRED V. NAYLOR

REPORT OF THE TREASURER

FOR THE CALENDAR YEAR, 1945

Balance on Hand, January 1, 1945

Cash in checking account in U. S. National Bank, Portland, Oregon		$ 1,596.19
Receipts 1945		
Receipts from dues:		
Library Membership dues	$3,930.00	
Supporting Membership dues	675.00	
Professional Membership dues	597.00	
Total	$5,202.00	$5,202.00
Receipts from *Bulletin Medical Library Assn.:*		
Advertisements	$ 526.69	
Subscriptions and sale of odd numbers	315.00	
Sale of reprints	905.25	
Army Medical Library, Honorary Consultants—share of cost of April, 1945, issue	346.64	
Total	$2,093.58	$2,093.58
Payment from National American Bank, New Orleans for Interstate Trust & Banking Co. (in liquidation)		71.25
Payment from American Library Association—share of profits from sale of Handbook of Medical Library Practice		1,042.00
Miscellaneous		9.88
		$8,418.71
		$ 8,418.71
Total of Balance on Hand, January 1, 1945, Plus Receipts 1945		$10,014.90

Disbursements, 1945

Medical Library Association Exchange	$2,556.92	
Bulletin Medical Library Assn., incl. cost of reprints	4,141.96	
Secretary	82.56	
Treasurer	39.95	
Special Committees	44.15	
2 $1,000 denomination Gov. Bonds, Ser. F, @ $740.00	1,480.00	
Miscellaneous	125.50	
	$8,471.04	$ 8,471.04

Balance on Hand, December 31, 1945

Cash in checking account in U. S. National Bank, Portland, Oregon .. $ 1,543.86

Total Assets December 31, 1945

Cash in checking account in U. S. National Bank, Portland, Oregon	$ 1,543.86
Cash in savings accounts in three Baltimore, Maryland, banks	5,536.82
8 $1,000 denomination U. S. Gov. Bonds, Ser. F, Cost	5,920.00
Total	$13,000.68

For the Period from January 1, 1946, to March 20, 1946

Balance on Hand, January 1, 1946

Cash in checking account in U. S. National Bank, Portland, Oregon ... $ 1,543.86

Receipts, January 1, 1946, to March 20, 1946

Receipts from dues:			
Library Membership dues	$3,375.00		
Supporting Membership dues	580.00		
Professional Membership dues	458.00		
Total	$4,413.00	$4,413.00	
Receipts from *Bulletin Medical Library Assn.:*			
Advertisements	$ 106.06		
Subscriptions and sale of odd numbers	176.26		
Sale of reprints	13.86		
Total	$ 296.18	296.18	
Miscellaneous		1.80	
		$4,710.98	$ 4,710.98

Total of Balance on Hand, January 1, 1946, Plus Receipts, January 1, 1946, to March 20, 1946 ..... $ 6,254.84

Disbursements January 1, 1946, to March 20, 1946

Medical Library Association Exchange	$ 547.70	
Bulletin Medical Library Assn., incl. cost of reprints	325.63	
Secretary	68.40	
Treasurer	10.00	
Special Committees	65.19	
Miscellaneous	51.75	
	$1,068.67	$ 1,068.67

Balance on Hand, March 20, 1946

Cash in checking account in U. S. National Bank, Portland, Oregon ... $ 5,186.17

Total Assets March 20, 1946

Cash in checking account in U. S. National Bank, Portland, Oregon	$ 5,186.17
Cash in savings accounts in three Baltimore, Maryland, banks	5,585.07
8 $1,000 denomination U. S. Gov. Bonds, Ser. F, Cost	5,920.00
Total	$16,691.24

BERTHA B. HALLAM, *Treasurer*

JOINT COMMITTEE ON HOSPITAL LIBRARIES

The Joint Committee on Hospital Libraries is a committee appointed at the request of Mr. Milam of the American Library Association. Association members and their representatives are as follows:

American Library Association: Mr. Carl Milam, Chairman
American Library Association: Miss Cora Beatty, Acting Secretary
American Library Assocation: Hospital Libraries Round Table: Miss Anne Farrington
American College of Surgeons: Dr. Malcolm T. MacEachern
American Hospital Association: Mr. George Bugbee
American Medical Association: Dr. William G. Hibbs
American Psychiatric Association: Dr. James K. Hall
Medical Library Association: Miss L. Margueriete Prime
Veterans Administration: Miss Elizabeth Pomeroy (present for consultation)

This committee met in May, 1943, to consider the proposal for the study of the hospital library service which had been sent to the members of the Joint Committee in advance.

It was decided that for the purposes of this study the term "hospital library service" should include the services of the medical library, the nurses' library, and the patients' library. It was considered advisable further that a survey or a sampling study of the library service be made; that the various types of service be evaluated insofar as feasible; that recommendations be made for future development; that the report be published for wide distribution to hospital administrators, librarians, physicians and others interested. It was thought advisable further that the survey should cover hospitals serving different kinds of patients such as may be found in community hospitals, children's hospitals, and hospitals for mental patients. It was further agreed that the hospitals surveyed should not be located in any one area, but should be representative of various regions. Recommendations were made concerning the length of the study, and individuals capable of making the survey were discussed. Sources of funds to finance the survey were considered and a committee to undertake the securing of such funds was appointed.

No further meetings of the Joint Committee have been held. However, from time to time, written reports have been submitted concerning attempts to obtain the funds necessary to finance the survey. If and when such funds are secured it is probable that a surveyor will be selected and the study be made.

Respectfully submitted,
L. MARGUERIETE PRIME, *Representative*
Medical Library Association

SPECIAL COMMITTEE ON A MEDICAL LIBRARY HANDBOOK

REPORT FOR 1945-46

Our *Handbook of Medical Library Practice,* first issued in June, 1943, sold out its first printing of 1,000 copies in November of that year. A second printing of 576 copies in December, 1943, has just been exhausted, and a third issue is now in press. The Medical Library Association subsidized the original edition to the amount of $2,400 and received back $84. It paid a subsidy of $500 towards the second printing and will get about $652 back, making an actual profit of around $152. The third printing of 500 copies is subject to a similar arrangement. We are deeply pleased that it has sold so well.

While we do not know when or whether a revised edition will be made, it will do no harm to urge any of you who have suggestions for the improvement of the *Hankbook* to send them in. The editor will be grateful to hear of errors, omissions, or ideas on subjects not touched upon which may be wanted.

Respectfully submitted,
JANET DOE, *Chairman and Editor*

SPECIAL COMMITTEE ON MEDICAL LIBRARY PROCEDURE

REPORT FOR 1945-46

The number of inquiries received by the Committee this year has fallen somewhat below that of last year—perhaps because the holding of this annual meeting in March instead of June makes the period covered shorter by three months. Five institutions, situated in California, Idaho, New York, Tennessee, and Montevideo, asked for information on the following subjects:

Classification (3 inquiries)
Cataloguing methods
Courses in medical library work
Lists of best recent books
Subject headings list

Respectfully submitted,
JANET DOE, *Chairman*

REPORT OF THE MEMBERSHIP COMMITTEE

During the nine month period, June 1, 1945, to February 28, 1946, the following applicants were admitted to membership in the Association:

Library Members

1. American-Soviet Medical Society Library, 130 W. 46th St., New York, N.Y. (Anne Cohen)
2. Barlow Sanatorium Association, 1301 Chavez Ravine Rd., Los Angeles 26, Calif. (NaDine Craven)
3. Beth Israel Hospital (New York), Medical Library, Stuyvesant Park East, New York 3, N.Y. (Mrs. Flora G. Ortman)
4. Bexar County Medical Library, 202 W. French Pl., San Antonio 1, Tex. (Mrs. Robbie M. Haling) *Reinstated.*
5. Cambridge Hospital Medical Library, 330 Mt. Auburn St., Cambridge 38, Mass. (Mildred A. Bowley)
6. College of Medical Evangelists, Library of the Department of Nervous Diseases, 1801 New Jersey St., Los Angeles 33, Calif. (Clementina Nicolas)
7. Gorgas Hospital Medical Library, Ancon, Canal Zone. (Gussie Gertrude Hutchinson)
8. Maricopa County Medical Society Library, 1200 Professional Bldg., 15 E. Monroe St., Phoenix, Ariz.
9. Medical College of Alabama Library, 620 S. 20th St., Birmingham 5, Ala. (Mildred R. Crowe)
10. Medical Research Council Library, National Institute for Medical Research, Hampstead, London, N.W. 3, England. (Ethel G. Wigmore)
11. Street Clinic Library, Crawford and Monroe Sts., Vicksburg, Miss. (Mrs. Frances M. Betts)
12. University of Pittsburgh Hospitals, Presbyterian and Woman's Units, Staff Library, 230 Lothrop St., Pittsburgh, Pa. (Martha R. Neville)

Supporting Members

1. Dr. Geo. W. Calver, Capt., U.S.N., 3103 Cathedral Ave. N.W., Washington 8, D.C.
2. Dr. Kendall Emerson, National Tuberculosis Association, 1790 Broadway, New York 19, N.Y.
3. Dr. Marion Fay, Woman's Medical College of Pennsylvania, East Falls, Philadelphia 29, Pa.
4. Dr. Bruno Gebhard, 8811 Euclid Ave., Cleveland 6, Ohio.
5. Dr. Roberta Hafkesbring, Woman's Medical College of Pennsylvania, East Falls, Philadelphia 29, Pa.
6. Dr. S. I. Kornhauser, 101 W. Chestnut St., Louisville 2, Ky.
7. Dr. Wade W. Oliver, 335 Henry St., Brooklyn 2, N.Y.
8. Dr. Curt Proskauer, 720 Fort Washington Ave., New York 33, N.Y.
9. Dr. Ruza L. Stuerm, Masaryk Institute, 8 W. 40th St., New York 18, N.Y.
10. Dr. Erik Waller, Strandvagen 59, Stockholm, Sweden.

Professional Members

1 Mr. Scott Adams, 3440 39th St. N.W., Washington 16, D.C.
2 Mrs. Frances M. Betts, Street Clinic Library, Vicksburg, Miss.
3 Mary-jeanne Bitter, Grant Hospital Medical Library, 551 Grant Pl., Chicago 14, Ill.

4. Sarah Dorothea Bollotin, Essex College of Medicine and Surgery, 105 Broad St., Newark 4, N.J.
5. Eleanor Gaines Boykin, 2211 Highland Ave., Birmingham 5, Ala.
6. Anne Cohen, 13 W. 106th St., New York 25, N.Y.
7. Virginia Donley, 413 N. Charles St., Baltimore 1, Md.
8. Pauline Duffield, Apt. 6, 1219 17th Ave. S., Nashville, Tenn.
9. Mr. Jean C. Eschmann, 1113 Argonne Rd., South Euclid 21, Ohio.
10. Mrs. Elaine Evans, U. S. Naval Hospital Medical Library, San Diego 34, Calif.
11. Suzanne Fallot, Los Angeles County Medical Association Library, 634 S. Westlake Ave., Los Angeles 5, Calif.
12. Mrs. Martha K. Furbur, Kirksville College of Osteopathy, Kirksville, Mo.
13. Col. Leon L. Gardner, Army Medical Library, 7th St. and Independence Ave. S.W., Washington 25, D.C.
14. Jane F. Gibbs, 2600 Traymore Rd., Cleveland Heights 18, Ohio.
15. Marjorie Henderson, Long Island College of Medicine, Hoagland Library, 335 Henry St., Brooklyn 2, N.Y.
16. Beatrix Jacob, Louisiana State University School of Medicine Library, New Orleans 13, La.
17. M. Irene Jones, Army Medical Library, 7th St. and Independence Ave. S.W., Washington 25, D.C.
18. Mrs. Celia Joyce, Wilmer Institute, Johns Hopkins Hospital, Balitmore 18, Md.
19. Jeanette Loessl, The Lucian Howe Library of Ophthalmology, 243 Charles St., Boston 14, Mass.
20. M. Ruth McDonald, Army Medical Library, 7th St. and Independence Ave. S.W., Washington 25, D.C.
21. Mr. J. Alan MacWatt, Lederle Laboratories Library, 35 Saddle River Rd., Pearl River, N.Y.
22. Sarah G. Mayer, 2122 Decatur Pl. N.W., Washington 8, D.C.
23. Nettie A. Mehne, Wesley Memorial Hospital, School of Nursing Library, 250 E. Superior St., Chicago 11, Ill.
24. Clementina Nicolas, College of Medical Evangelists, Department of Nervous Diseases Library, 1801 New Jersey St., Los Angeles 33, Calif.
25. Mr. Fred W. Riggs, Alexian Brothers Hospital Medical Library, 1200 W. Belden St., Chicago 14, Ill.
26. Eleanor G. Steinke, Harding Court Apts., Apt. C8B, Nashville 5, Tenn.
27. Margaret Stirling, Army Medical Library, 7th St. and Independence Ave. S.W., Washington 25, D.C.
28. Mae J. Surtz, 1286 E. 125th St., Cleveland 12, Ohio.
29. Cornelia Van Natten, Rochester Academy of Medicine, 1441 East Ave., Rochester, N.Y.
30. Mr. Wyllis E. Wright, Army Medical Library, 7th St. and Independence Ave. S.W., Washington 25, D.C.

Resignations and other changes occurring during this period are as follows:

Library Members Resigned

1. Lebanon Hospital Association of the City of New York. Library. Westchester, Cauldwell and Trinity Aves., New York, N.Y. (Rose Lehman)

Supporting Members Resigned

1. Mr. James E. Connolly, 851 Boylston St., Boston, Mass.
2. Dr. C. C. Lieb, 630 W. 168th St., New York, N.Y.
3. Dr. Goodrich C. Schauffler, Medical Arts Bldg., Portland 5, Ore.

Professional Members Resigned

1. Alphild Anderson, Grant Hospital Medical Library, 551 Grant Pl., Chicago 14, Ill.

2. Vera Barnes, Norwegian-American Hospital, 1044 N. Francisco Ave., Chicago 22, Ill.
3. Mr. R. H. Baugh, College of Physicians of Philadelphia, 19 S. 22nd St., Philadelphia 3, Pa.
4. Mrs. Marjorie Jacobsen Becker, 2291 Clermont St., Denver 7, Colo.
5. Lucy M. Eveleth, 313 Essex St., Salem, Mass.
6. Laveta Foster, 3705 Maple St., Dallas 4, Tex.
7. Mrs. Mabel E. Hayles, 160 N. Oakland Ave., Pasadena 4, Calif.
8. Mrs. Josephine P. Hunt, American Dental Association, Chicago, Ill.
9. Mr. Geo. Laino, 1437 Somerset Pl. N.W., Washington, D.C.
10. Mrs. Madelene Marshall, Northwestern University Dental School Library, 311 E. Chicago Ave., Chicago, Ill.
11. Mary M. Moss, Western State Psychiatric Hospital, Pittsburgh, Pa.
12. Mildred M. Robertson, University of Texas Medical Library, Galveston, Tex.
13. Clara Bertha Schwabe, 2310 Baldwin Ave., Houston, Tex.
14. Marguerite Simmons, 1108 W. Nevada St., Urbana, Ill.
15. Dorothy B. Spear, New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., New York 29, N.Y.

Deceased

Professional Members

1. Mrs. Loretta C. Kahler, Medical and Chirurgical Faculty of the State of Maryland, Baltimore, Md.

Summary of Membership

February 28, 1946

		Total
Honorary		
Membership unchanged		5
Library		
Membership May 31, 1945	255	
New Members	11	
Reinstated	1	
	267	
Resigned	1	266
Supporting		
Membership May 31, 1945	124	
New Members	10	
	134	
Resigned	3	131
Professional		
Membership May 31, 1945	209	
New Members	30	
	239	
Resigned or dropped	15	
Deceased	1	223
Total, all classes, February 28, 1946		625

It is regretted that the routine work on a number of applications was not completed in time to include them in this report. Library applications pending include:

1. The Library of Congress (Biological Science Section), Washington, D.C.
2. Charles University Library (National and University Library), Klementinum, Prague 1-190, Czechoslovakia. (Dr. Josef Becka)

The membership total has now reached the highest figure on record and there seems every indication that growth will continue with little or no solicitation. Affiliation with the Medical Library Association has proved a stimulus and a help to every library which has taken advantage of the opportunities afforded by the Exchange and other undertakings, and membership has come to be a first objective among those seriously engaged in medical library activity. The excellent articles in the Bulletin have done their part in giving to the Association the wide prestige it now enjoys. These articles broaden the librarian's scope of knowledge of medical history and librarianship and provide fresh perspective and appreciation of the library's place in the ever advancing fields of science. Supporting members too have derived inspiration and enjoyment from the Bulletin.

Following the 1941 annual meeting at Ann Arbor, the question was asked[1] if we wanted a large increase in our membership and, if so, why? It was pointed out that in growing big there might be some danger of losing the old time simple good fellowship and intimacy of a limited group to a more formal and regimented procedure characteristic of many large associations. The spirit of comradeship and fraternity among members has been outstanding in M.L.A. and it would be a loss indeed should this spirit deteriorate. However there seems little likelihood that this could happen among a group so devoted to its purposes and objectives as are the members of this Association. Since one of its primary aims is "the fostering of medical and allied scientific libraries," reasonable pride may be felt in the record of membership growth over the past few years.

	Membership (all classes)		
1934-35	346	1940-41	553
1935-36	355	1941-42	559
1936-37	433	1942-43	561
1937-38	516	1943-44	572
1938-39	543	1944-45	592
1939-40	537	1945-46	625

Considerable correspondence was entailed in answering inquiries regarding the various classes of membership in the Association. The Committee acknowledges with thanks the co-operation of the many in-

dividuals who helped to supply needed information to complete applications and who helped to attract to membership some outstanding institutions and individuals who will no doubt do credit to the Association and its work.

MEDICAL LIBRARY ASSOCIATION

Classes of Membership

Library Members

Medical or allied scientific libraries having not less than 1,000 volumes (of which not less than 500 volumes must consist of books and periodicals published within ten years of the date of application), receiving regularly not less than 25 current medical or allied scientific serials of good standing; and maintaining stated, regular hours, and in charge of qualified attendants. The power to vote in the affairs of the Association is vested solely in the library members and exercised by their official representatives. Eligibility to participate in the Exchange is restricted to library members. Annual dues of $15.00 includes subscriptions to the *Bulletin of the Medical Library Association.*

Professional Members

Any person actively engaged in medical library work is eligible for professional membership. Annual dues with *Bulletin,* $3.00; without *Bulletin,* $2.00.

Supporting Members

Any person interested in medical and allied libraries. Annual dues of $5.00 includes subscription to the *Bulletin.*

(Applicants for membership upon being approved by a majority of the Executive Committee, including the Chairman, shall be entitled to all the benefits of membership from the time they pay their annual dues, their election to be ratified by the Association at its following annual meeting.)

E. LOUISE WILLIAMS, *Chairman*

REPORT OF THE PUBLICATION COMMITTEE 1945-46

This report will not be long as the work of the Publication Committee, as it is now constituted, began officially on January 1, 1946, and only the January issue of the Bulletin has appeared so far. Fortunately Col. Harold W. Jones,[1] the Chairman of the previous Committee, and Lt. Col. Thomas E. Keys, the Editor, have provided some notes for the first part of this report, and we are grateful. They wish to say that the articles by Miss Julia Wilson ("An Evaluation of Book Reviews") and Mrs. Eileen R. Cunningham ("Selective Check-List of Books Published in the United States in Medicine and the Allied Sciences from 1939—June, 1944"), both of which appeared in the July, 1945, issue, "received widespread comment." They also draw attention to the articles by Dr. Dorothy M. Schullian (" 'Old Volumes Shake Their Vellum Heads' ") and Mr. William Richard LeFanu ("John Hunter's Letters") which came out in the October, 1945, number. The latter paper, coming from England, was particularly welcome. But one of the most important contributions in the October issue was the "Chronology" and "Cumulative Index of Authors" of the volumes of

[1] Jones, H. W.—Editorial, *Bull. of the M.L.A.* 30: 1-2, Oct., 1941.

our Bulletin, 1-33, which are found on pages 563-575. The work was begun by Dr. W. B. McDaniel, 2d, while he was the Editor, and completed under the editorship of Lt. Col. Keys and his associate, Dr. Max H. Fisch.

On taking over, this Committee decided upon an "editorial policy," which all such committees seem to formulate when they begin! Among the items in this we state that we wish to encourage the smaller groups of libraries which help to make up the membership of the Association, that is, the dental, pharmaceutical, and hospital libraries. We also decided to discontinue reviewing strictly medical books, as we can all find adequate notices of these in the general or special journals; but we wish to review books pertaining to all kinds of medical library work and methods, and books of medical biography and history. We make a special plea for "Association News." We do want articles on library practice, bibliography, the history of medical libraries, and the history of various aspects of medicine. Papers on medical men who distinguished themselves by their love of books or devotion to medical libraries would be welcome. We have increased the rates charged for advertisements and hope that this was a wise move. The finances of the Bulletin will be noted in the report of the Treasurer.

ARCHIBALD MALLOCH, M.D., *Chairman*

REPORT OF THE COMMITTEE ON PERIODICALS AND SERIAL PUBLICATIONS

During 1945-46 numerous letters have been received and answered concerning the status of foreign periodicals. We are now happy to report that since mailing restrictions were removed, periodicals from European countries are reaching libraries in increasing amounts.

Many French journals have suspended publication and some have been amalgamated with other journals, especially in the case of society publications. Most of them have raised their prices and the output has been extremely limited. There has been a general increase in prices, but these increases have not been excessive.

The Italian journals seem to have continued publication up to 1944. Some were then suspended and a few amalgamated with other journals. They are now resuming publication but the prices have been tremendously increased above the prewar level and even in the case of those journals published at lower list prices, i.e., back issues for the war period are now being offered to dealers and libraries at fantastic increase in cost. This committee will take immediate steps to remind Italian scientists of the dangers of this type of inflation, in light of what happened to German periodicals following World War I. Many libraries

simply will not be able to buy and the result will be a decrease in the circulation of the literature of any country that does not try to curb such inflationary tendencies.

The list published in the last issue of the Bulletin,* through the courtesy of the Army Medical Library, has been very helpful in regard to information about new journals published since the war began, and about journals which have ceased publication or have been amalgamated with other journals.

The present status of German publications is still shrouded in mystery. Mr. Harry M. Lydenberg of the American Library Association's International Relations Office left for Europe in January for a study of the library and book situation in Europe, including Germany. After his return we may know more of what actual conditions are. Stechert and Company has also sent a representative to Europe to see what can be accomplished in locating their stocks. From shipments of journals which have reached certain medical libraries it seems that a great many of the German medical journals were still being published during 1943 and early in 1944; beyond that we have no information at present. The firm of Julius Springer is still operating in Berlin according to our latest information. It is not believed that much of his stock remains intact.

Certain libraries who subscribed to foreign publications through the Joint Committee on Importations find themselves with duplicates on their hands. Other libraries have gaps in their files for the same period. In order to make duplicates available to libraries and to prevent their being turned loose on the open market with the consequent danger of a rise in price, I would like to suggest that the Medical Library Association appoint a Committee to handle them so that lists of duplicates of foreign periodicals for the war period and lists of wants for this same period can be sent to one place, the information pooled and made available to the members of the Association. Libraries who subscribe to journals at considerable expense through the Joint Committee on Importations will undoubtedly feel they should receive for their duplicates the price charged them by the dealers who acted as agents for the Committee. I am sure they will not wish to make any profit out of the situation but will be glad to permit the matter to be handled to the best advantage of all concerned so long as it does not involve a loss.

It is to be hoped that during the coming year it will be possible to resume work on the standardization of periodicals. Miss Marjorie Vivian, Chairman of the American Library Association's Serials Round Table, is still very much interested in having this work carried on but it might

* *Bull. Med. Lib. Assn.*, 34:34-38, Jan. 1946.

be wiser to wait another six months until both librarians and publishers have been able to get their work reorganized and have had time to overcome post-war difficulties before taking up this problem actively.

We are fortunate this year in having with us Miss Dorothy Comins, Executive Assistant of the Committee on Aid to Libraries in War Areas. Miss Comins will tell us herself of the work of this Committee and about the American Book Center for War Devastated Libraries. Medical Libraries have continued their generous co-operation with this Committee.

MRS. EILEEN R. CUNNINGHAM, *Chairman*

REPORT OF THE JOINT COMMITTEE ON INDEXING AND ABSTRACTING IN THE MAJOR FIELDS OF RESEARCH

Due to the illness of Mrs. Cowles, Chairman of the Joint Committee, little can be added to the report made last year and published in the Bulletin.* Mrs. Cowles writes that it was understood that the recommendations made by the Joint Committee last year were to be taken up at the mid-winter meetings of the American Library Association. Mrs. Cowles hopes to issue a follow up report, and regrets it will appear too late for presentation at our meeting. Her present hope is to have the Committee make plans, subject by subject, for the various services in different subject fields.

The Executive Board of the American Library Association reports that the recommendations of the Committee on Indexing and Abstracting in the Major Fields of Research, which appeared in the A.L.A. *Bulletin,* October 15, 1945, pages 370-371, were referred to the following groups: The Association of College and Reference Libraries, the Association of Research Libraries, A.L.A. International Relations Board, Board on Resources of American Libraries, Serials Committee and Serials Round Table.

Those comments which have come in expressed great interest in the project and their belief that it would be of enormous value to libraries and research. There also seems to be a consensus of opinion that it would be wiser to consolidate, expand and co-ordinate functioning indexing and abstracting services and to *augment* them by new services where necessary, rather than to supersede those already in existence.

There seems to be general agreement that practical plans will have to be formulated at the various subject levels and that government aid would be desirable.

It is evident that the library and bibliographical activities of the United Nations Educational, Scientific and Cultural Organization

* *Bull. Med. Lib. Assn.,* 33:518-525, Oct. 1945.

(UNESCO) will also undoubtedly enter into the picture and might be of aid.

The A.L.A. Board of Resources of American Libraries has proposed a conference of librarians and scholars to be sponsored by that Board and the International Relations Board. This conference would consider: exchanges, reproduction, bibliographical activities, indexing and abstracting; tariff, copyright, postal and other barriers or aids to a free interchange of ideas and information. Mr. Milam, Executive Secretary of A.L.A., has pertinently suggested that before such a conference is held, memoranda concerning the facts and problems in each subject should be carefully worked out, and ready for presentation.

The Vannevar Bush report recommending the establishment of a National Scientific Foundation as discussed in the report of the Committee last year, has now been implemented by a bill, S.1850, 79th Congress, 2nd Session, introduced into the Senate of the United States, February 21 (legislative day, January 18), 1946. Mr. Kilgore (for himself, Mr. Magnuson, Mr. Johnson of Colorado, Mr. Pepper, Mr. Fulbright, Mr. Saltonstall, Mr. Thomas of Utah, and Mr. Ferguson) introduced the bill, which was read twice and referred to the Committee on Military Affairs. This bill replaces those bills introduced last year and proposes a National Scientific Foundation which will contain a "Division of Mathematical and Physical Sciences, a Division of Social Sciences, a Division of Health and Medical Sciences, a Division of National Defense, a Division of Engineering and Technology, a Division of Scientific Personnel and Education, a Division of Publication and Information, and such additional divisions, not to exceed three in number, as the Administrator may from time to time establish after receiving the advice of the Board." The Division of Publications and Information would have a direct bearing on the question of setting up adequate abstracting and indexing services and I would like to recommend that the Medical Library Association go on record as endorsing this bill S.1850 and stating that the Division of Publications and Information is of particular interest to this group.

Accepting Mrs. Cowles proposal that studies of the problem be made at the subject level, I would like to suggest that the Association appoint a commission to survey the problems connected with abstracting in clinical medicine and to make recommendations for an adequate service. It seems obvious that with the activities and government programs mentioned above already under way it is important to have plans formulated for presentation when the need arises.

EILEEN R. CUNNINGHAM
Member of Joint Committee Representing the Medical Library Association

REPORT OF THE ANNUAL MEETING OF THE AMERICAN DOCUMENTATION INSTITUTE

The president presented the written report on the activities of the past year. In the absence of the treasurer, Lieut. Steuart Henderson Britt, the president, presented the annual financial report. The nominating committee, announced in the call for the annual meeting, consisting of Mr. Ralph Shaw, Dr. Mary A. Bennett and Dr. H. K. Cummings, made its report through its chairman and placed in nomination as trustees the following: Watson Davis, Lieut. Steuart Henderson Britt, Dr. E. J. Crane, Dr. Keyes D. Metcalf, and Dr. Vernon Tate. No nominations being made from the floor, upon motion duly made, seconded and carried, the secretary was instructed to cast the unanimous ballot of the meeting electing the trustees.

There was a report by Mr. Ralph Shaw on the exchange of microfilm orders between libraries which was inaugurated for an experimental period March 1 to September 1, 1944, as a result of the action of the Committee on Exchange of Microfilm Orders of the American Documentation Institute. Serious difficulties arose because of difference of prices in Federal and non-federal agencies, and nothing has been done on this project during the last six months.

Dr. E. J. Crane reported on the American Chemical Society microfilm project. This involves the co-operation of Chemical Abstracts, Bibliofilm Service and the U. S. Department of Agriculture library.

Dr. George S. Darling stated that the National Research Council has undertaken to serve as an agency for service to the Latin American republics under a grant from the office of the Coordinator of Inter-American Affairs. The work is being done by the U. S. Department of Agriculture and the finances handled by the National Research Council. Mr. Shaw reported that already 300,000 pages of microfilm have been sent free of charge, except for postage, to Latin America and that this is serving a very useful purpose. Mr. Davis reported that when Mr. Brickell and he were touring Latin America this project had been mentioned and the Latin Americans were very grateful.

Mr. Richard Heindel, chief of the Division of Libraries and Institutes of the Department of State, reported that they are undertaking a project which will include about 65 libraries throughout the world to serve both information and cultural needs and to convey the American scene. They may rely on the roll of microfilm and certain other scientific developments of scientific information.

Mr. Howland Sargeant gave a résumé of the work of the Office of the Alien Property Custodian, and reported that that office will continue to assist in collecting translations for the Technical Translations Clear-

ing House, but that the American Documentation Institute should take the leadership in the project.

Dr. Atherton Seidell told of his trip abroad, and the great progress that has been made in microfilm, particularly in France. He demonstrated a new microfilm reading machine which is now being produced in France.

Mr. John C. Green, of the Office of Publications of the Department of Commerce, reported a new project approved in December which puts out a bibliography which lists and briefly abstracts documents, after which the document is stored in a government library. As the documents are needed, a microfilm is made.

Mr. Eugene Powers reported on microfilm activity in France and England, and told of work the American Council of Learned Societies is doing.

Dr. Vernon Tate gave a statement on microfilm apparatus, and reported that the *Journal of Documentary Reproduction* would not be resumed under American Library Association sponsorship.

Captain Rupert H. Draeger reported on microfilm development and research that has been carried out and will be carried out within the coming year.

The meeting then adjourned.

HELEN M. DAVIS, *Secretary*
COL. HAROLD W. JONES
Representing Medical
Library Association

ATTENDANCE

Alabama

Miss Eleanor G. Boykin, Medical College of Alabama Library, Birmingham.
Miss Mildred R. Crowe, Medical College of Alabama Library, Birmingham.

California

Miss Hazel M. Granger, Los Angeles County Medical Society Library, Los Angeles.
Mrs. Ella Moyers, College of Medical Evangelists, Los Angeles.

Connecticut

Mr. G. T. Babb, Sterling Memorial Library, Yale University, New Haven.
Miss Dorothea Bolton, Yale Medical Library, New Haven.
Dr. A. Castiglioni, Yale University, New Haven.
Dr. John F. Fulton, Yale University School of Medicine, New Haven.
Mrs. Lucia P. Fulton, New Haven.
Miss Esther Glanz, Connecticut Bureau of Industrial Hygiene, Hartford.
Dr. Samuel C. Harvey, Yale University School of Medicine, New Haven.
Mrs. Phebe M. Hoff, Yale Medical Library, New Haven.
Miss Clara Libby, Connecticut State Department of Health, Hartford.
Miss Barbara Merrill, Yale Medical Library, New Haven.
Mrs. Henrietta Perkins, Yale Medical Library, New Haven.

Miss Olive Rogers, Hartford Medical Society Library, Hartford.
Mr. Carl P. Rollins, Yale University Press, New Haven.
Miss Madeline E. Stanton, Yale Medical Library, New Haven.
Dr. Herbert Thoms, Yale University, New Haven.
Miss Marjorie Wildes, Yale University School of Medicine Library, New Haven.
Miss Anne Winslow, Yale University, New Haven.
Dr. C. E. A. Winslow, Yale University, New Haven.
Mrs. C. E. A. Winslow, Yale University, New Haven.

District of Columbia

Mr. Scott Adams, Army Medical Library.
Miss Eleanor M. Coffyn, Army Medical Library.
Miss Dorothy J. Comins, A.L.A. International Relations Office.
Mrs. Florence A. Cooksley, Washington Institute of Medicine.
Miss Helen G. Field, Army Medical Library.
Col. Leon L. Gardner, Army Medical Library.
Col. Harold W. Jones, Army Medical Library.
Miss M. Irene Jones, Army Medical Library.
Dr. Henry Klaunberg, Washington Institute of Medicine.
Miss M. Ruth MacDonald, Army Medical Library.
Miss Mabel McLaughlin, Veterans Administration.
Miss Sarah G. Mayer, Library of Congress.
Mrs. Josephine G. Morton, Howard University College of Medicine Library.
Miss Helen H. Norris, Army Medical Library.
Mr. William R. Scheirer, Army Medical Library.
Dr. Atherton Seidell, Army Medical Library.
Mr. Wyllis E. Wright, Army Medical Library.

Georgia

Miss Mildred M. Jordan, The Abner Welborn Calhoun Medical Library, Emory University.

Illinois

Miss Fritzi F. Berne, Winnebago County Medical Library, Rockford.
Miss Jennie R. Greenbaum, Michael Reese Hospital Library, Chicago.
Mrs. Madelene Marshall, Northwestern University Dental School Library, Chicago.
Miss L. Marguerite Prime, American College of Surgeons Library, Chicago.
Miss Wilma Troxel, University of Illinois, Medical, Dental, and Pharmacy Library, Chicago.

Indiana

Sister M. Alfreda, Medical Record Librarian, Terre Haute.
Sister M. Renata, St. Elizabeth Hospital Library, Lafayette.
Mrs. Irene M. Strieby, Library of the Lilly Research Laboratories, Indianapolis.
Miss Elizabeth Weissman, Miles Laboratories, Elkhart.

Louisiana

Miss Mary Louise Marshall, Tulane University School of Medicine Library, and Orleans Parish Medical Society Library, New Orleans.
Mr. W. D. Postell, Louisiana State University, Agramonte Memorial Library, New Orleans.

Maryland

Miss Mabel D. Clark, Naval Medical Research Institute, Bethesda.
Miss Margaret Doonan, National Institute of Health Library, Bethesda.
Dr. Sanford V. Larkey, Welch Medical Library, Johns Hopkins University, Baltimore.
Mrs. Sanford V. Larkey, Baltimore.

Miss Marcia C. Noyes, Medical and Chirurgical Faculty of the State of Maryland Library, Baltimore.
Mrs. Ida Marian Robinson, University of Maryland, Medical and Dental Libraries, Baltimore.
Miss Ruth E. Rodier, Naval Medical Center, Bethesda.

Massachusetts

Mr. James F. Ballard, Boston Medical Library, Boston.
Mr. George L. Banay, Worcester State Hospital, Worcester.
Miss Sara E. Blake, Tufts College Medical and Dental School Library, Boston.
Miss Gertrude Ehrlicher, Pratt Diagnostic Hospital Library, Boston.
Miss Anna C. Holt, Harvard University Schools of Medicine and Public Health Library, Boston.
Miss Elizabeth V. King, Boston Psychopathic Hospital Library, Boston.
Miss Eleanore A. Lewis, Massachusetts General Hospital, Treadwell Library, Boston.
Mr. H. D. Metcalf, Harvard University Library, Cambridge.
Miss Loretta F. Smith, Boston Psychopathic Hospital Library, Boston.
Miss Florence E. Turner, Boston University School of Medicine Library, Boston.

Michigan

Miss Sue Biethan, University of Michigan Medical School Library, Ann Arbor.
Miss Marjorie J. Darrach, Detroit Public Library, Medical Science Department, Detroit.
Miss Ruth R. Gambee, Henry Ford Hospital Library, Detroit.

Minnesota

Miss Isabelle T. Anderson, Ramsey County Medical Society Library, St. Paul.
Mr. Thomas E. Keys, Mayo Clinic Library, Rochester.
Miss Frida Pliefke, Hennepin County Medical Society Library, Minneapolis.

Mississippi

Mrs. Frances M. Betts, Street Clinic Library, Vicksburg.
Miss E. Louise Williams, Mississippi State Board of Health Library, Jackson.

Missouri

Mrs. Lily Hanvey Alderson, St. Louis Medical Society Library, St. Louis.
Dr. William A. Fitzgerald, St. Louis University School of Medicine Library, St. Louis.
Miss Marion A. Murphy, Washington University School of Medicine Library, St. Louis.

New Jersey

Miss Gertrude Horndler, Schering Corporation Laboratory, Bloomfield.
Miss Mildred V. Naylor, Academy of Medicine of Northern New Jersey Library, Newark.
Mrs. Minnie Riker, Newark City Hospital Library, Newark.

New York

Mr. Alfred Angrist, Queens County Medical Library, Forest Hills.
Miss Gertrude L. Annan, New York Academy of Medicine, New York City.
Miss Heath Babcock, New York State Medical Library, Albany.
Mrs. M. Kim Barrett, Hospital for Special Surgery, Medical Library, New York City.
Miss Helen Bayne, New York University College of Medicine Library, New York City.
Miss Doris Bolef, Bellevue School of Nursing Library, New York City.
Miss Hester A. Bradbury, National Foundation for Infantile Paralysis, New York City.
Miss Estelle Brodman, Columbia University Medical Library, New York City.
Miss Margaret Brinton, New York Medical College, Prentiss Library, New York City.
Miss Anne Cabral, National Health Library, New York City.

Miss Margaret M. Clark, New York Department of Health, Division of Laboratories and Research Library, Albany.
Miss Gladys Codlin, New York University Medical Library, New York City.
Miss Anne Cohen, American-Soviet Medical Society Library, New York City.
Mr. Albert Daub, G. E. Stechert & Co., New York City.
Miss Janet Doe, New York Academy of Medicine Library, New York City.
Miss Dorothy Donaldson, Syracuse University College of Medicine Library, Syracuse.
Miss Marion F. Dondale, Albany Medical College Library, Albany.
Mr. Wesley Draper, Medical Society of the County of Kings and Academy of Medicine of Brooklyn Library, Brooklyn.
Miss Myrl Ebert, Columbia University, New York City.
Mrs. Lilian Evans, Medical Society of the County of Queens Library, Forest Hills.
Miss Eleanor Fair, Metropolitan Life Insurance Company, New York City.
Miss Jacqueline W. Felter, New York Post-Graduate Medical School Library, New York City.
Mr. Thomas P. Fleming, Columbia University Library, New York City.
Mr. I. Friml (?) New York Academy of Medicine Library, New York City.
Miss Esther Garson, National Health Library, New York City.
Mrs. Sarah Wilson George, New York Academy of Medicine Library, New York City.
Miss Eugenie Glatzl, Metropolitan Life Insurance Company, Medical Library, New York City.
Miss Eva R. Hawkins, National Health Library, New York City.
Miss Marjorie Henderson, Long Island College of Medicine, Hoagland Library, Brooklyn.
Miss Helen Hlavac, National Health Library, New York City.
Mr. Walter A. Johnson, New York City.
Mr. Paul Jolowicz, Minerva Booksellers, New York City.
Miss Esther Judkins, Rockefeller Institute for Medical Research Library, New York City.
Miss Louise D. C. King, New York Academy of Medicine, New York City.
Miss Nora Lock, John M. Wheeler Library, Institute of Ophthalmology, New York City.
Miss Florence Lyons, New York City.
Dr. Archibald Malloch, New York Academy of Medicine Library, New York City.
Dr. R. S. Morison, Rockefeller Foundation, New York City.
Miss Frances E. Morton, Syracuse University College of Medicine Library, Syracuse.
Miss Elizabeth New, New York Post-Graduate Medical School Library, New York City.
Miss Florence E. Nicholls, Director Hospital Library Bureau, New York United Hospital Foundation, New York City.
Mrs. Josephine G. Nichols, Cornell University Medical College Library, New York City.
Mr. Martin Padine (?) New York Academy of Medicine, New York City.
Mr. Jurgen G. Raymond, New York Academy of Medicine Library, New York City.
Mr. Seymour Robb, Columbia University Medical Library, New York City.
Miss Erna Russo, New York Academy of Medicine, New York City.
Miss Rosalie M. Saitta, Lenox Hill Hospital Medical Library, New York City.
Mr. Edward Schiels, New York Academy of Medicine, New York City.
Miss Elizabeth Schramm, Columbia University Medical Library, New York City.
Miss Anna M. Sexton, New York Department of Health, Division of Laboratories and Research Library, Albany.
Miss Margaret C. Taylor, Rochester General Hospital, Ely Memorial Library, Rochester.
Miss Edith A. Thomson, National Health Library, New York City.
Miss Cornelia Van Natten, Rochester Academy of Medicine Library, Rochester.
Miss Mildred E. Walter, University of Rochester, School of Medicine and Dentistry Library, Rochester.
Miss Angela White, New York City Department of Health, New York City.

North Carolina

Dr. W. C. Davison, Durham.
Mrs. Helen Monahan, Charlotte Medical Library, Charlotte.

Ohio

Mr. Clyde L. Annmer, Cleveland Medical Library, Cleveland.
Dr. Howard Dittrick, Cleveland Clinic, Cleveland.
Mrs. Howard Dittrick, Cleveland.
Dr. Max H. Fisch, Army Medical Library, Cleveland.
Miss Ada L. Floyd, Cleveland Medical Library, Cleveland.
Dr. Robert M. Stecher, City Hospital, Cleveland.
Miss Mabel M. Walker, Miami Valley Hospital, Dayton.

Oklahoma

Miss Veneta R. Barlow, Tulsa County Medical Library, Tulsa.
Miss Lilah B. Heck, University of Oklahoma School of Medicine Library, Oklahoma City.

Oregon

Miss Bertha B. Hallam, University of Oregon Medical School Library, Portland.

Pennsylvania

Miss Charlotte E. Coffman, Temple University Dental College Library, Philadelphia.
Miss Ida J. Draeger, Woman's Medical College of Pennsylvania Library, Philadelphia.
Mrs. L. Mabel Grant, Guthrie Clinic Library, Sayre.
Mr. Robert T. Lentz, Jefferson Medical College Library, Philadelphia.
Miss Margaret C. Lietman, Mercy Hospital Staff Library, Pittsburgh.
Miss Alice M. McCann, University of Pittsburgh School of Medicine Library, Pittsburgh.
Dr. Walton Brooks McDaniel, II, College of Physicians Library, Philadelphia.
Miss Clara Manson, College of Physicians Library, Philadelphia.
Miss Margaret Gayley Palmer, Evans Dental Institute, Philadelphia.
Mrs. Melitta Turner, Hahnemann Medical College and Hospital Library, Philadelphia.

South Carolina

Miss Annabelle W. Furman, Medical College of the State of South Carolina Library, Charleston.

Tennessee

Mrs. Eileen R. Cunningham, Vanderbilt University School of Medicine Library, Nashville.
Mr. Alderson Fry, Meharry Medical College, Nashville.
Miss Marie Harvin, Vanderbilt University School of Medicine Library, Nashville.
Miss Emily H. McCurdy, University of Tennessee College of Medicine Library, Memphis.
Miss Eleanor G. Steinke, Vanderbilt University School of Medicine Library, Nashville.

Texas

Miss Laveta Foster, Southwestern Medical Foundation Library, Dallas.
Miss Helen M. Holt, Houston Academy of Medicine Library, Houston.
Miss Elizabeth D. Runge, University of Texas School of Medicine Library, Galveston.

Vermont

Miss Eileen G. McGinley, University of Vermont, College of Medicine Library, Burlington.

Virginia

Miss Margaret McCluer, Richmond.
Dr. M. Pierce Rucker, Richmond.

Washington

Miss Ruth E. Harlamert, King County Medical Society Library, Seattle.

Wisconsin

Miss Helen Crawford, University of Wisconsin Medical School Library, Madison.
Mrs. Edith Dernehl, Marquette University School of Medicine and Milwaukee Academy of Medicine Library, Milwaukee.

Canada

Miss Ruth M. Briggs, University of Toronto, Connaught Antitoxin Laboratories Library, Toronto, Ontario.
Dr. W. W. Francis, McGill University, Osler Library, Montreal, Quebec.
Miss Edith R. Gordon, McGill University Medical Library, Montreal, Quebec.
Miss Agatha Leonard, University of Toronto, Toronto, Ontario.
Miss Olga E. Somerville, Department of National Health and Welfare, Ottawa.

England

Miss Agnes Lothian, Pharmaceutical Society of Great Britain, London.
Miss Ethel G. Wigmore, Medical Research Council Library, London.

France

Dr. Genevieve Gentry, Académie de Médecine, Paris.

Holland

Mr. W. A. Swets, Swetsen Zeitlinger, Amsterdam.

Association News

RESULTS OF THE QUESTIONNAIRE AS SUBMITTED BY THE COMMITTEE ON THE TRAINING FOR MEDICAL LIBRARIANSHIP

A total of 128 answers were returned of the 392 that were sent out. This represents a 32 per cent return, which we feel is a very good record and indicates the interest in the adoption of a training program for medical librarianship.

1. What type of training would you recommend for medical librarianship? (For the purpose of correlation, the parts of question one were graded on the basis of ten; those votes for one part (either A, B, C, D or E) were credited with ten points. Those votes favoring one or two forms of training were graded either seven and three, or six and four respectively. On this basis the following votes were tabulated.)
   A. Special courses devoted to medical librarianship as a part of the basic year of library school. *231 points.*
   B. Short courses in medical bibliography and medical library administration subsequent to library courses. *250 points.*
   C. Internship—a year of training in a medical library subsequent to library school. *504 points.*
   D. A special library school organized to give training in medical librarianship. *106 points.*
   E. Any other type of training. *8 points.*

It would appear from this tabulation that an overwhelming majority of votes favored a year of internship to be either accompanied or preceded by some formal instruction as a training program for medical librarianship.

2. What subjects would you require as prerequisite to enter special professional training for medical librarianship?
   Foreign languages received *55 votes.*
   Basic sciences received *44 votes.*

The consensus was that training in both the basic sciences and languages was considered essential with a slight preference being expressed for foreign languages over sciences in order of importance.

3. Should the year of professional training for medical librarianship include formal subject training in history of medicine, anatomy, physiology, pathology etc?
   Yes *45* No *56*
4. Do you think it more advantageous to have subject training included in college curriculum?
   Yes *71* No *36*
   This question refers to undergraduate training.

5. Should formal training during the year of professional training include seminar, lectures, etc.?
   A. On medical subjects. Yes *73* No *19*
   B. On history of medicine. Yes *71* No *25*
   C. On library technics. Yes *74* No *26*

Medical training suggestions: 1) Courses given to medical students, 2) to social workers, 3) to nurses, 4) medical record librarians, 5) hospital administrators.

6. Do you feel the training program should be devoted to lectures on the literature of medicine, with minor emphasis on routines, cataloging or administration?

Yes *48* No *59*

This question was awkardly worded. The type of teaching, or method of teaching was what we had in mind, whether teaching should be entirely by means of lectures, or should include practice also.

7. How many persons trained in medical librarianship could the field absorb in any one year?

This of course was pure guess. Estimation varied from 5 to 300. Most guessed about 25 now, as the need is very great, possibly fewer later. Probably in view of the growth of hospital libraries, the need will continue.

8. Would you approve association sponsorship of a scholarship for training—The general consensus seemed to be that funds from any sources, for either loan or gift were desirable; also that if we favored a loan fund we should back it by actually lending funds for even one scholarship from our own funds.
9. Adoption of a certification program.

Yes *91* No *14*

It was suggested by a number of persons that there should be several grades of certification, considering training, experience, as well as the type of work in the library for which the person is trained; grades of certification to correspond to types of training were recommended.

Most librarians thought the period of experience for initial certification should be longer than 2 years, possibly 5 years.

10. In the adoption of standards to meet a certification program, what proportional alternate credit should be given for—(Graded on the basis of 100).
    A. Academic training
    B. Professional library training. *1,713 points.*
    C. Medical training. *1,113 points.*
    D. Experience. *1,528 points.*
    E. Personality qualifications.

The consensus was that Academic training and personality for the type of work under consideration were basic and could not be substituted for any other credentials and that personality is an attribute which does not readily lend itself to grading.

11. What official organization would enforce the standards?

Overwhelmingly the opinion was expressed that standards and certification should be established by the Medical Library Association. Approval and cooperation in our plan would be desirable and would be solicited from the American College of Surgeons, American Medical Association, American Hospital Association, and other such Associations.

ARMY MEDICAL LIBRARY CONSULTANTS PRESS PLANS FOR NEW BUILDING

At meetings in Washington, Friday and Saturday, October 4 and 5, 1946, the Association of Honorary Consultants to the Army Medical Library urged early action for a new library building. Major General Norman T. Kirk, The Surgeon General of the Army, at a dinner for the members of the Association Friday evening at the Hotel Statler, said that it was planned to ask Congress at the next session for enabling legislation to build the library and that it was hoped to include the request for funds in the 1948 budget. The 110 year old library is now housed in a non-fireproof structure which was built in 1887. Other addresses at the dinner, which was presided over by Dr. John F. Fulton, Professor of Physiology at Yale University and President of the Association, were given by Colonel Leon L. Gardner, The Director of the Library, Professor Max H. Fisch, University of Illinois, former Chief of the Medical History Division, Army Medical Library, and Dr. Reginald Fitz, Lecturer on Historical Medicine, Harvard University.

At the professional meeting on Saturday morning, The Director of the Library spoke on Widening Horizons, mentioning particularly the large gain in acquisitions the Library has made during the past year. Mr. Wyllis E. Wright, The Librarian, Army Medical Library, discussed the problem of avoiding duplication in Federal libraries. The program also included Dr. Morris Fishbein of the American Medical Association, on "I Thee Endow"—a permanent fund for the Association; Miss Mary Louise Marshall of Tulane University Medical Library, on a new medical classification; Dr. Chauncey D. Leake of the University of Texas School of Medicine, on regional representatives for the Association; Dr. Luther H. Evans, Librarian of Congress, on coordinated service—Library of Congress and the Army Medical Library.

During Saturday afternoon, members of the leading medical publishing houses met with Colonel Gardner in a discussion of the difficulties encountered through microfilm copying. It was agreed that a code should be drawn up for the mutual benefit of libraries and medical publishers and to protect authors' copyright interests.

ARMY MEDICAL CARDS AND MEDICAL SERIES AVAILABLE TO LIBRARIES

Beginning 1 October, 1946, entries prepared by the Army Medical Library will be printed and made available for distribution by the Library of Congress. These entries, prepared according to simplified cataloging

rules, will vary from the present Library of Congress cards in certain details.

In connection with this arrangement, the Library of Congress decided to establish a special Medical Series of printed cards for all medical publications cataloged by the Army Medical Library or the Library of Congress. The cards will bear the abbreviation *Med* before the card number. This series is established for the benefit of medical libraries, medical schools, and others interested in medical literature and bibliography who will be able to subscribe for the series at a relatively low cost.

Subscriptions for the series should be placed with the Card Division of the Library of Congress, to which all inquiries regarding these cards should be addressed.

PUBLICATION AVAILABLE TO LIBRARIES

A limited number of copies of the *Proceedings* of the second general meeting of the Honorary Consultants are available for distribution to libraries. Among items of interest contained in the publication are, "Medical Book Selection in the Army," "Rare Books and Librarianship," and "The Form of the Book," an extensively illustrated article on bookbinding. Requests should be addressed to the Public Relations Officer, Army Medical Library, 7th Street and Independence Avenue, S.W., Washington 25, D.C.

The marriage of MISS VENETA R. BARLOW and Dr. George R. Osborn of Tulsa, Oklahoma, took place in the early spring of this year. Mrs. Osborn has served for more than eight years as librarian of the Tulsa County Medical Society Library working effectively to enlarge the collection and extend the services of the library. The best wishes of the Association are extended to the couple.

MRS. CONSTANCE L. CRAIG, Librarian of the Vancouver Medical Association Library has completed a pleasant and profitable tour of the east, including the medical libraries of New York and Chicago in her trip.

MISS NETTIE A. MEHNE has resigned as librarian of the Nursing School of Wesley Memorial Hospital of Chicago to accept the position of medical librarian to the Percy Jones General Hospital, Battle Creek, Michigan. Miss Mehne has a degree in library science from the University of Minnesota and served for two years in the library of the Mayo Clinic before going to Wesley in 1944. She is very well fitted for her new responsibilities.

MRS. WALTER COX has been appointed to fill the vacancy in the Nursing School Library of Wesley Memorial Hospital, Chicago. Mrs. Cox is a graduate of the Columbia University School of Library Service and has served for several years as documents librarian in the library of Northwestern University at Evanston. Her interest in medicine and in the student nurse has made the opening at Wesley especially attractive to her.

MR. FREDERICK WEZEMAN has been appointed librarian for Branch Office No. 7 of the Veterans' Administration located at 226 West Jackson Boulevard, Chicago. Mr. Wezeman attended the University of Illinois Library School and the Graduate Library School of the University of Chicago

and served as reference librarian at the Oak Park Public Library in 1945. He served in the Navy from 1942-1944. The Branch Library hopes to serve the needs of medical and technical specialists of the Branch Office of the Veterans' Administration. A basic collection of medical books and other books relating to the rehabilitation and training of the veteran is being established. The branch library will serve to supplement the already existing libraries in the Veterans' Hospitals.

The *Bulletin* of Northwestern University Medical School has made a place for the writings and interests of the staff of the Medical School Library. Among the publications which have appeared recently are the following:

Carr, Elizabeth F. Bibliography of early ophthalmological works in the Archibald Church Library. Quart. Bull., Northwestern Univ. M. School, 1944, 18: 238.

Carr, Elizabeth F. Medical publications of Baskerville Press. Quart. Bull., Northwestern Univ. M. School, 1945, 19: 311-313.

Price, Georgia. Publications of Irving S. Cutter. Quart. Bull., Northwestern Univ. M. School, 1946, 20: 164-166.

Vincent, Esther H. Literary doctors. Quart. Bull., Northwestern Univ. M. School, 1945, 19: 142-150.

Vincent, Esther H. Doctors in fiction. Quart. Bull., Northwestern Univ. M. School, 1945, 19: 220-226.

Vincent, Esther H. The doctors look at music. Quart. Bull., Northwestern Univ. M. School, 1946, 20: 240-246.

Vincent, Esther H. Back of the book. Quart. Bull., Northwestern Univ. M. School, 1946, 20: 362-366.

During the past few months the Library of the Medical College of the State of South Carolina (ANNABELLE W. FURMAN, Librarian) has had installed ten double-range stacks to take care of the rapid expansion attributed to back sets of foreign journals and new books. Fluorescent lighting is installed throughout the stacks and the comfort and ease of selecting material is greatly enhanced.

The Reception for the graduating seniors and their families and friends was held in the Library after the exercises on March 8 from 5:15-7:00. About 500 people were present. Four nights before, the Alumni Association had its party for the seniors in the Library and in June the Pharmacy School had a reception for their seniors. So the Librarian is getting a reputation for "party-giving" as well as "book dispensing."

Volume 3, issue number 4, of the *Bulletin* was published in May. The librarian is the editor of the *Bulletin.*

Five cartons and two large wooden boxes of journals and books have been sent to the American Book Center for the devastated libraries abroad.

The medical library at Jackson Memorial Hospital, Miami, Florida has recently received the steel stacks ordered during the war years. Installation of the new fixture has increased shelf space by slightly over 40 per cent.

The library was opened on November 23, 1937, with books and bound

journals totaling 584 volumes. It now contains 5,882 bound volumes and many runs of journals for which a binding appropriation has not yet been made by City of Miami, operator of the hospital.

MISS RUTH M. TEWS, formerly Head of the Hospital Library Service, St. Paul Public Library, St. Paul, Minnesota, was appointed Hospital Librarian of the Mayo Clinic, Rochester, Minnesota, on September 1, 1946. Miss Tews will reorganize and build up the library service to patients in the Rochester Hospitals. She received her B.S. degree in Library Science and the certificate from the Hospital Librarianship Course in 1939 from the University of Minnesota. In 1944, she was appointed by Special Libraries Association to organize the Hospital and Nursing Librarians Group and served as its Chairman from 1944-1946.

Other recent appointments to the Mayo Clinic Library Staff are as follows: MISS ELSA K. HAMMARI formerly assistant cataloger, U. S. Naval Academy, Annapolis, Maryland, to head the Catalog department, MISS VERA M. BARRNES formerly WAC in charge of the technical library at Camp Detrick, Frederick, Maryland, to the position of assistant cataloger, MISS RUTH B. CAUSTIN, a graduate of this year's class in library science, University of Minnesota, as library assistant and MISS RUTH MANN, formerly with the reference department, Army Medical Library, Washington, D.C., as assistant to the librarian.

Miss Barrnes in recognition of her services with the Army has been authorized to wear the Army Commendation Ribbon. Her citation was signed by Major General Alden H. Waitt, Chief of Chemical Warfare Service. The citation reads as follows: "As librarian of the Technical Department, Camp Detrick, Maryland, T/3 Vera M. Barrnes catalogued and meticulously cared for all reference texts and secret papers necessary in supplementing the efforts of this department. She meritoriously performed her duties and was a material aid in expediting the use of essential references by the scientific personnel at this installation."

MR. DONALD MAX FITCH, Columbia, 1939 has been appointed cataloger on the staff of the University of Nebraska College of Medicine Library.

DR. GEORGE DOCK, was honored on June 2 by the Los Angeles County Medical Association, its Trustees, and the members of the Library Committee at a reception given in the lounge of the Los Angeles County Medical Association. Dr. Dock has served continuously for a period of twenty-three years on the Library Committee and has given to the Association approximately three thousand selected volumes on medicine. Surrounded by the books he loves, Dr. Dock greeted several hundred guests who called to pay their respects to him. He received messages and greetings from many of his friends and colleagues, including Doctors William Francis of Montreal, Archibald Malloch of New York and R. E. Schlueter of St. Louis.

MISS MARION A. MURPHY, Librarian of Washington University School of Medicine, announced that Dr. Walter Baumgarten, Jr., has given the library of his father, the late Dr. Walter Baumgarten, Assistant Professor Emeritus of Clinical Medicine, to the library. This gift is of special interest

because early in its existence the library was given the books of Dr. Walter Baumgarten's father, Dr. Gustav Baumgarten, pioneer Missouri doctor who was Professor of Practice of Medicine from 1892 to 1910 at the St. Louis Medical College.

Work has been begun toward the construction of a new wing to the St. Louis University School of Medicine to cost between $750,000 and $1,000,000. The early French Gothic-styled building will contain a new medical library capable of housing 100,000 volumes. Alpha Omega Alpha, medical honor society, has donated one stained glass window for the reading room. Six rooms to house special collections, a large medical history museum and forty-five study carrells are planned. Dr. William A. FitzGerald, who is librarian, also holds the chair in Medical History.

DR. PIERRE BOURGEOIS, Director of the Swiss National Library, visited the Army Medical Library and other institutions in Washington, in July.

The Army Medical Library has been invited to participate in 1947-48 in a program of exchange of books and students sponsored by the Interdepartmental Committee of Scienific and Cultural Cooperation, of the Department of State. It is planned to have medical librarians from Latin America study at the A.M.L. and elsewhere, and to make medical books published in the United States available in Latin American countries where normally they are not afforded. The program includes the Library of Congress and the Library of the Department of Agriculture, and will cover other fields besides medicine.

The Army Medical Library had an exhibit as part of the Army Medical Corps, in the Scientific Section of the recent A.M.A. Annual Meeting at San Francisco. Attention was first attracted by a large, electrically illuminated globe, flanked by copies of the Index Catalogue and encircled by a strip of microfilm, symbolizing the Library's world-wide services. The main feature, however, was a panel with a mounted photograph of the proposed new Library building beneath which were listed the library's services with samples of the Current List and the Index Catalogue. Although limited in size and space, the exhibit attracted much attention and, it is hoped, served to acquaint more people with the library.

DR. BEATRIX A. BICKEL, well known in medical fields, died at her home, 3130 Wisconsin Avenue, Washington, D.C., on Tuesday, June 11, 1946. Born in Cleveland, Ohio in 1875, she received her pre-medical education abroad. She came of a family of ministers and her parents hoped she would become a medical missionary, but in this they were disappointed. She married abroad and practiced in Hamburg, Germany for fifteen years, serving with life insurance and sickness insurance institutions. After the death of her husband, a German physician, she regained her American citizenship in 1920.

In this country a medical publishing firm offered her a research editorship. From 1923 to 1930 she did editorial work for the U. S. Public Health Service, Division of Venereal Disease. From there she went to the War Department, becoming first, Contract Surgeon, then first assistant to

the Librarian of the Army Medical Library from which position she retired in 1942.

MISS OLINDA E. HEMPEL, Librarian of the Instituto Adolfo Lutz, of the Department of Health, São Paulo, Brazil, at the invitation of the International Relations Office of the American Library Association, has been taking the Library Science course at the University of Chicago, and working in the Bio-medical libraries of the university. Having finished the course, she is now spending two months in Washington observing the organization and functions of the Army Medical Library, the Library of the Department of Agriculture, the Library of Congress and the Pan-American Sanitary Bureau, before going to the Tulane University School of Medicine for additional training under Miss Mary Louise Marshall.

Miss Hempel is a member of the Committee on Microfilm of the Brazilian Bibliographical Center in the Faculty of Medicine, and is particularly anxious to build up the serial holdings of the Center in the field of bio-medicine. So far she has made arrangements to ship about two tons of publications from this country to the Instituto.

MISS L. MARGUERITE PRIME, Librarian, American College of Surgeons, Chicago, presided recently over a panel discussion for the purpose of outlining the basic purposes and services of each of the three departments represented, the medical record library, the school of nursing library, and the medical library, to discuss means of cooperation between them, and, in a limited fashion, services to other departments.

Miss Jean L. Hoffman, Medical Record Librarian, St. Anne's Hospital and Miss Inez Byars, Medical Record Librarian, St. Joseph Hospital, discussed problems arising when the Medical Record Librarian serves as both the Record Librarian and the Medical Librarian.

Miss Nettie Mehne, Librarian, School of Nursing, Wesley Memorial Hospital, and Miss Marion White, Librarian, School of Nursing, St. Luke's Hospital, discussed the problems of the School of Nursing Libraries.

Miss Coeina A. Ruch, Medical Librarian, American Institute of Baking, pointed out some of the reference features of the medical library. Miss Jennie R. Greenbaum, Librarian, Lillian W. Florsheim Memorial Library, Michael Reese Hospital, emphasized the importance of instruction in orienting students to the proper use of the library.

The members of this panel are to be congratulated on the organization and purpose of this discussion group. Probably most librarians could follow the example of this group and organize panels for discussion of mutual problems.

MR. WYLLIS E. WRIGHT, The Librarian of the Army Medical Library, has resigned to accept the appointment as Librarian of the Williams College Library, Williamstown, Mass.

"The Program Committee most cordially extends an invitation to the members to participate actively in the Cleveland 1947 meeting of the Medical Library Association to be held this coming May 27 through 29. Papers should preferably be on professional subjects and their reading time should not

exceed ten minutes (allowing five minute periods for discussion). Members who would like to read a paper are urged to address a letter to Thomas E. Keys, Librarian of the Mayo Clinic, Rochester, Minnesota. The deadline for acceptances will be February 15.

"At the New Haven meeting the round-table discussions were so stimulating that we hope to have a few of these for the next meeting. The committee would also like an expression of opinion from the members as to suggested topics for discussion."

REPORT ON THE WORK OF THE A.L.A. COMMITTEE ON AID TO LIBRARIES IN WAR AREAS, AND THE AMERICAN BOOK CENTER

I am here to tell you something of the activities of two closely related projects in which medical librarians have shown much interest—the American Library Association's Committee on Aid to Libraries in War Areas and the recently organized American Book Center for Aid to Devastated Libraries.

To begin with the Committee, it was organized at the midwinter meeting of the Association in 1940. The following summer it was able to embark on a program of purchasing war time issues of important American journals when funds for the purpose were offered by the Rockefeller Foundation. It may be interesting to you to know that the suggestion was originally made by the Medical Division of the Foundation for the acquisition of medical journals only. The A.L.A. felt that other fields of research should also be provided for, and was able to interest other divisions of the Foundation in extending the project to cover the purchase of journals of permanent value to scholars and research workers in all subject fields.

The project has continued to be a particular concern of the Medical Division, and there has been what I believe is a justifiable emphasis on medical journals in our purchases. Of the 365 periodicals we are purchasing or have purchased something over ninety may be classified as medical, and a large proportion or our heaviest purchases are in this field.

The number of copies acquired varies considerably for different titles, from five copies to seventy-five copies to be exact. We also increased our purchases as the war progressed, so that in most cases we have more copies from 1942 on than for the earlier years. In some cases our purchases go back as far as 1939.

These variations in the number of copies available for different journals and for different years have created a number of problems in connection with the distribution which we are doing our best to solve fairly. We are finding particularly, now that we are hearing directly from foreign libraries as to their needs, that we need more volumes for the years preceding 1942, and even in some cases for years before 1939.

We have prepared a tentative allocation table which assigns a certain minimum number of copies to each country, depending on the number we have purchased. We are trying to establish contacts with all the countries being considered, with a view to sending to each country at least one set

of each periodical. Of course, some countries must be omitted if we have only five or ten sets. First sets of all medical and scientific journals have already gone to France. Medical journals have gone to Czechoslovakia, and plans with regard to some other countries are far advanced. Requests for additional sets are being centralized by some agency in each country, and are being filled within the limits set by our tentative allocation chart. Since some countries are not asking for all the copies assigned to them, we hope there may be some left over so that later we can give more copies to the countries that need them. There is also a possibility of filling such requests from the collection of donated journals.

One problem, which is particularly acute in the medical field, is that of issues, and even whole volumes, of journals that are out of print and unobtainable. In most cases, our sets are complete from 1942 on, but since no purchases were made until October 1941, there were a number of earlier issues we were unable to buy from the publishers. There have also been a few cases in which through an oversight on the part of the publishers—one of the disadvantages of our plan of asking the publishers to store all journals purchased from them—later issues have gone out of print before copies for us were put aside. When we need only a few copies, we have tried to obtain them from second-hand dealers and as gifts with only fair results. We shall be glad to send a list of these out of print issues to anyone who wishes it. From the beginning, the Committee has envisaged the possibility that it might be necessary to arrange for some form of reproduction of some of the issues which are missing in large quantities, and we hope soon to work out some plans along these lines. We would like to think that we could persuade the publishers of these journals to arrange for the reprinting and distribution of such issues, with our Committee agreeing to buy the number needed to complete our sets. This appears to us to be much the most satisfactory way of handling the matter, since we are certain that there will be a considerable demand beyond the copies we will require. However, tentative conversations with some of the largest medical publishers have not been particularly encouraging, and some other method may have to be found. We shall be glad to have any help or suggestions you can give in this matter, perhaps by approaching the publishers directly, or by telling us of any additional demands for such periodical issues that may have come to your attention. Possibly some of you have tried to get, and still need, war-time issues that are out of print.

A second activity of the Committee on Aid to Libraries in War Areas, with which many of you are familiar, is the acquisition of gifts of important periodicals to supplement the purchase program. This gift program was inaugurated early in 1942, when a statement for publication was sent to each of the journals we were then purchasing urging subscribers to save their journals of this type because they would be desperately needed in other countries after the war. This plea inevitably led to offers of material if it could be disposed of immediately. No storage space for gift material was available, and no one knew how long it would be before printed matter could be shipped abroad. The problem was solved by asking libraries in all parts of the country to accept cartons of journals for dead storage, with the idea

that after the war they would be shipped unopened to a central warehouse for sorting. There were of course many libraries not able to help us. We have eagerly read all reports of new library buildings as most likely to have some unneeded space, and I suppose we have had at least two or three refusals for every bit of space that we have found. Altogether, there have been over forty libraries that have actually received and stored periodicals for us, and many more that have agreed to hold their own duplicates until central storage space was available. We are very much aware of the fact that some librarians have made considerable sacrifices to do this, and I am glad to have this opportunity to say that without their help what we have done in accumulating this huge stock of gifts would have been impossible. It is hard to say just how large this collection now is, but I can say without hesitation that both in number of gifts and size of contributions, the medical libraries of the country have been outstanding. A number of you have sent to storage shipments weighing two or three tons.

(Parenthetically, I am unhappily aware of the fact that we have never succeeded in solving the storage problem in Canada. Some Canadian medical librarians have written us that they had duplicate journals to give if we could store them. We have had a committee member in Canada who has worked on the problem; we have laid the matter before the Canadian Library Council, and a number of prominent librarians, but the results have been nil. In one case, we were able to locate reasonably close storage space for a large shipment of Canadian material across the border in North Dakota; a few smaller collections have been sent to Rochester, N.Y. from the Toronto region. But in other instances we have most regretfully been forced to notify the inquirer that storage space could not be found.)

This splendid response from the members of your Association has been in no small measure, I am sure, due to the whole-hearted cooperation of your Committee on Periodicals and Serial publications headed by Mrs. Eileen Cunningham. We have found Mrs. Cunningham, and the officers and members of the Association always ready with advice when we asked for it—and our own unfamiliarity with medical publications has made us turn to them often—and eager to cooperate in giving publicity to the program. As you know, Mrs. Cunningham's committee prepared for us a list of medical journals of most importance which was sent to all members of the Medical Library Association and is the list on which we base our acceptance of gift journals in this field. It contains a great many journals which we have not purchased, either because they were felt to be of somewhat less importance, or because we hoped that sufficient gifts would be available to take care of all the needs. In this second category, the outstanding titles are the *Journal of the American Medical Association and Surgery, Gynecology, and Obstetrics.*

The Committee's one concern when we began accepting gifts of periodicals was to see that they were preserved to help meet the inevitable demand that would come from foreign countries after the war. We realized that the time would come when further plans would have to be made for getting the material to the libraries needing it, and at this point the American Book Center comes into the picture. The Center was incorporated last June in order

that it might receive funds for operation and expenses. It is operating under the sponsorship of the Council of National Library Associations, which includes both the A.L.A. and M.L.A. Since last April Mr. Kenneth Shaffer has been Executive Director of the project.

I know that many of you have been impatient at the slowness with which the Center's plans have developed. So have all of us who have been connected with that development. The original budget called for a sum so large that it has been difficult to find ways and means of raising it. Although funds are still being sought, enough have now been secured or promised to assure the successful operation of the Center. The financing has been accomplished by appeals, through the President's War Relief Control Board and the National War Fund to relief organizations representing the different countries to be served. The budget has been reduced by making changes in policy as to the methods of handling material. The most important of these is the decision to operate without a large warehouse. The Library of Congress has offered the use of some space which it is hoped will be sufficient under the present plan—to ship material out as soon as it is received. There is one exception which I shall mention later.

I want to say something as to the relations of the A.L.A. Committee to the Center. The Committee has recently voted to turn over to the American Book Center all the gift material it has accumulated. Although there are some differences in our policies, we have felt that these could be ironed out, and that it would be impossible to secure additional funds to take care of these gift periodicals. We also feel strongly that the problem can best be handled by coordinating all efforts in one organization. Certainly, a campaign for printed materials should yield a large additional stock of journals. Mr. Wyllis Wright, who is the chairman of our Committee is also Secretary of the American Book Center Board of Directors. The Center is requesting, and we hope ways can be found to carry out the request, that the Committee's Executive Assistant be detailed to the Center for at least half time during the rest of the year to supervise the handling of gift periodicals. We are already in close touch with Mr. Shaffer and his staff, making plans for handling the periodicals that will be received.

For periodicals, it is planned to ship out only complete volumes, and to keep a card record of what is shipped to each country. We have suggested a plan whereby sets shipped by our Committee from its purchased stock will be taken into consideration, and will be supplemented by the gift sets. There will of course be many more titles in the gift collection than we are purchasing, and these will be distributed according to a priority list.

A great many incomplete volumes of periodicals have been and will be received. A considerable stack area has been set aside in which such material will be shelved. From this collection, it will be possible to make up complete volumes from various sources, and also, we hope to obtain material to fill actual requests for single issues and incomplete volumes. For instance, it has already become apparent that many single issues for the last two or three months of 1941 are going to be needed. The mails were stopped to many countries immediately upon our entrance into the war on December 7, and

many issues that had been mailed never reached their destinations. A number of shipments of journals were also lost in ship sinkings. There appears to have been a particularly heavy loss from this cause in November 1940.

I have already mentioned a dissimilarity in aims of the Committee and the American Book Center. This distinction is brought out in the names, one being for "libraries in war areas" and the other for "devastated libraries." We all of course have a natural sympathy for the allied countries that have suffered heavy damage in the fighting. They surely demand our first attention. Our Committee has taken the attitude, however, that an effort should also be made to help countries not damaged, and neutral countries that have simply not been able to get journals from this country for a variety of reasons, after the more obvious needs have been cared for. In the interests of scholarship, we feel that these countries too should have help in completing their files of important journals.

The ABC expects, under present plans, to include only the devastated allied countries in its program. I shall not name them, but with the exception of Austria, Italy, and Finland they are all United Nations. It is quite likely that other countries will be included later, if the State Department recommends such inclusion. Not all of these countries are being included in the full program as it gets under way because funds are not yet available for all the countries. It would of course be unfair to the countries for which funds have been contributed to use this money to serve other countries. Our Committee, however, hopes that some arrangement can be made whereby at least one set of each important periodical can be sent to any country needing it. It seems assured that this can be done at any rate for the countries potentially included in the Center's program. I should perhaps say that neither the Committee nor the ABC have yet decided to send material to Germany and Japan.

And now to give you a brief summary of the Center's plans and your part in them. Some material has already been received by the Center, and a staff is being assembled to handle it. Announcements for the library press and the press at large are ready to be sent out and a plan for state organizations and consultants in various subject fields has been prepared. The present plan is to start the campaign gradually and continue it over a considerable period of time, probably a year or more. If you have material for the Center which you can possibly hold for another month or two, please wait for the printed announcements that the Center is ready to receive it. With space limited, we are a little afraid of being swamped at the beginning. If necessary, material may be sent in now, and the Center will furnish you with shipping instructions on request. The material already in storage for our Committee will be brought in gradually to provide a backlog. There will also soon be instructions as to the types of material that will be acceptable. I have been firmly indoctrinated by the medical librarians with whom I have worked that in your field, periodicals are of infinitely more importance than books. I do believe, however, that medical books should by no means be excluded. We shall hope for your help and advice in selecting useful monograph material, as we have already had it in making up the list of periodicals. We must bear in mind that in some countries, such as the Philippines and Poland almost every library

has been completely or partially destroyed. I think that in such countries books which we might consider somewhat out of date will be useful. I hope that when the state chairmen are announced you will offer your services to them, and will also see that the doctors connected with your institutions or with whom you have any contacts and the local medical organizations know about the need for medical material. Our experience with the Committee leads us to feel that the medical field is perhaps the most important in which material will be collected. Anything you can do to publicize the campaign in your own community will be one more link that will help to make it a success. Mr. Shaffer may be reached at the American Book Center, c/o the Library of Congress. Either of us will be happy to hear from you if you have questions or suggestions.

DOROTHY J. COMINS

PLACEMENT ADVISORY SERVICE

In order to reduce the work of our officers and to render a much needed service to our members, the Executive Committee has established a "Placement Advisory Service."

This will be under the charge of one person who will attempt to bring together those needing assistants and assistants wishing to change. For the individual there will be a simple application form to be filled out, giving roughly the experience and qualifications of the applicant. There will be no attempt at a detailed evaluation but names of those on file who might fill the position will be sent to the library, which will then communicate directly with any person who seems to be a good prospect.

Notification of positions filled, should be sent to the Placement Adviser so that the names can be removed from the file.

As a small return for this service, both the applicant and the library obtaining this service should either be a member of the Medical Library Association or else join the Association.

Unless we know who desires to obtain a position and those desiring such assistants, the service cannot function. May we ask that you make your wants known? The information obtained will not be divulged except as it becomes necessary to do so in the transaction of filling the desired position.

Address all communications to:

Miss LOUISE D. C. KING
New York Academy of Medicine Library
2 East 103rd Street
New York 29, New York

Obituary

MARCIA C. NOYES, MEDICAL LIBRARIAN

ON NOVEMBER 24 occurred the passing of Miss Marcia C. Noyes, a pioneer in the field of medical libraries, and the one who has done more than anyone else to foster the principles of the Medical Library Association and to promote the development of our organization. Miss Noyes was not only admired, but was loved by medical librarians from coast to coast, and in her death, each of us experiences a deep sense of personal loss.

Miss Noyes was born in Saratoga, New York. She was educated at Hunter College and the Normal School of the City of New York, moving to Baltimore about 1895. She worked first in the Pratt Library, coming to the Medical and Chirurgical Faculty of Maryland as librarian in 1896, on the recommendation of Dr. Osler, who was at that time a member of the Library Committee. Recently Dr. J. A. Chatard, of Baltimore said, in speaking of Miss Noyes, that she had "created a reality of the hopes and dreams Dr. Osler formulated while he was at Hopkins. She caught the spirit which impelled him to see that the library was rescued from oblivion, properly housed and made available to readers through the employment of a full-time librarian. On this foundation she worked constantly as his understudy, both before and after he left Baltimore, to create an atmosphere both effective and genial, so that people would like to come to the building; would feel, when they got there, that interesting and important things were going on under its roof, and that someone was not only willing but able to help them with their problems. I don't think anyone could have done just what she did."

Miss Noyes has lived in the building with the library for fifty years, —actually on 24 hour duty. Since 1925, she has been not only Librarian but Executive Secretary of the Faculty. The reception in celebration of her fifty years of service was reported in the October Bulletin.

The contribution which Miss Noyes has made to the Medical Library Association will always be for us, her best and ever-living memorial. She was not only present at its organizational meeting in 1898, but has aided in the editing of its Bulletin, managed the Exchange from 1900 to 1904 and from 1909 to 1926. She was the first

person not a physician to become President of the Association, and the first woman to hold this office. Even more important, have been the principles of altruistic cooperation and service, which she has ever fostered and nurtured in the Association's activities. We are wealthy in the heritage of ideals with which we have so been endowed.

Recently she wrote of herself, "If I have accomplished anything, let that speak for me, as while making a living, I have tried to make a life." May the spirit of friendliness and devotion to service, which Miss Noyes so well exemplified, remain with us as we carry on in the field of medical libraries which she loved so well.

Reviews and Book Notes

MALTZ, MAXWELL. Evolution of Plastic Surgery. 368 pp. New York, Froben press, 1946. $5.00.

The Evolution of Plastic Surgery, by Maxwell Maltz, presents an informal summary of the origin and development of reparative surgery from prehistoric times to the present, with particular attention to the evolution of rhinoplasty. One of the introductory chapters is devoted to descriptions of military surgery in the Middle Ages, and another to the mutilations practiced by uncivilized tribes and nations. The author begins his story of plastic surgery with a note on the work and writings of Sushruta, the "Hindu Hippocrates" of the sixth century B.C., who is credited with the description of free grafts and flap grafts in repair of deformities of the features. The development of plastic surgery keeps pace with progress in surgery as a whole, and Çelsus, at the beginning of the Christian era, wrote of the use of sliding grafts and of secondary closure of wounds. As the centuries passed, regression in the general knowledge of medicine took place, until de Mondeville, in the 13th century, remarked tartly that "Many more surgeons know how to cause suppuration than how to heal a wound."

The author summarizes briefly the chief surgical contributions of each of a number of men who have figured in the progress of surgery throughout recorded history, bringing the story of plastic surgery up to the present, with a description of the Gillies tube pedicle graft and brief mention of several other current methods of plastic repair. A series of photographs is appended, illustrating the results of minor plastic procedures for cosmetic correction of slight deformities.

While the book affords a fairly entertaining and light review of some of the high points in the development of plastic surgery, many of the serious problems encountered and important advances made during and since World War I are not mentioned, and many other are passed over lightly. The book is evidently offered as a simple historical sketch, since it is not sufficiently detailed or inclusive to serve as a reference book.

HUGH C. ILGENFRITZ, M.D.

GUTHRIE, DOUGLAS. A History of Medicine. 448 pp. Philadelphia, J. B. Lippincott Co., c 1946. $6.00.

This book could well deserve the title "The Literary History of Medicine," since in this text the history of medicine is treated from the standpoint of its literary masterpieces. For medical librarians as well as those interested

in the cultural aspects of medicine, this book would make very interesting reading. Time and again Dr. Guthrie introduces the reader to almost unheard of incidents in the literary history of medicine. There is for instance the Mansur hospital at Cairo which employed six librarians to care for the library. What an interesting chapter in medical librarianship, if we only knew something of the work of these librarians.

Sometimes in reading histories of medicine, we wish medical historians would elaborate a little on such stereotype terms as "Aristotelian Philosophy," for instance. Surely a term as well worked as that deserves a little explanation at times. Maybe, we might find that it too made some contribution to medical culture.

In conclusion the author refers briefly to the influence of journalism and bibliography upon the progress of medicine. As the invention of printing influenced greatly the uplifting of the human race, certainly medical journalism and bibliography played its part in the progress of medicine. We whose profession is dealing with the literature of medicine might have wished that Dr. Guthrie would have devoted a little more space to this phase of medical culture.

W. D. POSTELL

STATEMENT AF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

BULLETIN OF THE MEDICAL LIBRARY ASSOCIATION published 4 times a year at Menasha, Wisconsin, for Medical Library Association 1946, State of Louisiana, Parish of Orleans.

Before me, a notary public in and for the State and county aforesaid, personally appeared W. D. Postell, who, having been duly sworn according to law, deposes and says that he is the Editor of the BULLETIN OF THE MEDICAL LIBRARY ASSOCIATION and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher Medical Library Association, 1211 Cathedral St., Baltimore, Md.; Editor W. D. Postell, 1542 Tulane Ave., New Orleans 13, La.; Managing Editor W. D. Postell, 1542 Tulane Ave., New Orleans 13, La.; Business Manager W. D. Postell, 1542 Tulane Ave., New Orleans 13, La.

2. That the owner is: Medical Library Association, Dr. W. B. McDaniel, 2nd, President, 19 S. 22nd St., Philadelphia 3, Pa.; Dr. C. Abbott Beling, Vice-President, 15 Washington St., Newark 2, N.J.; Miss Heath Babcock, Secretary, New York State Medical Library, Education Building, Albany, N.Y.; Mr. Jurgen G. Raymond, Treasurer, 35 Hillside Ave., Norton, Conn.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is 1,000. (This information is required from daily publications only.)

W. D. POSTELL, Editor

Sworn to and subscribed before me this 17th day of September, 1946

EMMA CORNAY, Notary Public

(My commission expires at death)

[Seal]